

# THE AMERICAN PSYCHOLOGIST

VOLUME 14



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THE AMERICAN PSYCHOLOGICAL ASSOCIATION, INC.



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# THE AMERICAN PSYCHOLOGIST

Journal of the American Psychological Association, Inc.

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Volume 14

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# PROGRAM OF THE SIXTH-SEVENTH ANNUAL CONVENTION OF THE AMERICAN PSYCHOLOGICAL ASSOCIATION

September 3-9, 1959, Cincinnati, Ohio

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## PAPERS AND SYMPOSIA

### THURSDAY MORNING, SEPTEMBER 3

#### Division 7. Parent-Child Interaction

9:00-10:50. Rookwood Room, Sinton

RICHARD BELL, *National Institute of Mental Health*,  
Chairman

9:00. Consistency in child-rearing attitudes and patterns of conflict as measured by parental attitude scales given to mothers and fathers. MARVIN ZUCKERMAN, *Indiana University Medical Center*.

Lack of consistency between the child-rearing attitudes of parents and parental role conflicts have been stressed as sources of disturbance in children. Mother and father forms of the Parental Attitude Research Instrument were given to parents of child guidance cases and control parents. Significant agreement on child-rearing attitudes between parents was found in both groups. The pattern of correlations indicated conflict in the clinic group centering around the mother's "ascendance." The greatest conflict was in cases where both parents were high on "ascendance." Ascendance of the mother was less central in the conflict pattern of the normative group.

9:10. Child-rearing attitudes of mothers and fathers as reported by schizophrenic and normal control patients. NORMAN GARMEZY, CAROL STOCKNER, AND ALAN R. CLARKE, *Duke University*.

The problem was to study child-rearing attitudes ascribed to parents by schizophrenic and normal patients, who varied in social maturity prior to illness. The subjects were 45 poor and good premorbid (i.e., socially inadequate vs. adequate) schizophrenic and nonpsychiatric hospitalized patients. The subject, recalling his early adolescence, indicated the responses

he believed each parent would have made to child-rearing attitudinal (overprotecting, dominating, and ignoring) statements. Patient's level of social maturity and extent of attitudinal deviance ascribed to parents are related. Pairs reveal maternal dominance; Goods, paternal dominance. Discussion will center around identification processes, differential sensitivity of groups to censure, and acquiescence response sets.

9:20. The development of security and attachment in the relations of East African infants to their mothers. MARY D. AINSWORTH, *Johns Hopkins University*.

The development of the child's attachment to his mother was observed in 27 Ganda infants ranging from birth to 18 months of age. 16 were judged to be secure and attached, 7 insecure and attached, and 4 nonattached. All but 2 were treated warmly and permissively by their mothers. Two variables differentiated significantly between the three groups when a median test was applied: amount of care given by the mother and the mother's excellence as an informant. No significant effect was observed for number of adult caretakers, total amount of adult care, scheduled vs. self-demand feeding, and degree of acculturation.

9:30. The relationship between parental characteristics and behavioral maturity of nursery school children: A cross-validation study. AUBREY H. RODEN AND SAMUEL R. PINNEAU, *University of California, Berkeley*.

What is the nature of the relationship which exists between the behavioral maturity of children, and selected personality characteristics and child-rearing attitudes of their parents? Children's behavioral maturity in this sample of nursery school children is positively related to a family environment charac-

terized as relatively harsh, punitive, critical, and marked by parental dissent. It seems evident that, when the parents were harshly critical of immature or even of age-appropriate responses and demanded more mature behavior, the child tended to conform.

- 9:40. Observations of free play situations as a method of personality assessment. JANET E. RAFFERTY, BONNIE B. TYLER, AND FORREST B. TYLER, *Southern Illinois University*.

It appears that the usefulness of naturalistic observational methods has been reduced because of certain methodological problems. It is suggested that to be maximally useful, observation measures must meet certain criteria, i.e., they must be systematic, purposive, quantified, reliable, and relatable to a larger body of knowledge. A method for analysis of observational data designed to meet these criteria is reported. Results from the utilization of this method with data from a preschool population suggest that the proposed method provides a reasonably adequate means of satisfying the specified criteria.

- 9:50. Relationships between parental child-rearing motivations and motivations of preschool children. FORREST B. TYLER, BONNIE B. TYLER, AND JANET E. RAFFERTY, *Southern Illinois University*.

Relationships between child-rearing motivations of mothers and of fathers and between parental motivations and motivations of preschool children are reported. The study is organized within the framework of Rotter's social learning theory of personality with all data analyzed on the motivational dimensions Recognition-Status, Love and Affection, and Dominance. Adequate interrater reliability of scoring was obtained for parent interview protocols and child descriptive observation protocols. Interparental correlations are negligible. Significant parent-child correlations obtained are reported, and the closer correspondence between father-child scores (compared to mother-child) is discussed.

- 10:00. A parental attitude questionnaire with social desirability controlled. DONALD K. PUMROY, *University of Maryland*.

The study's purpose is to develop a parental attitude questionnaire in which the tendency to answer in a socially desirable manner is minimized. Items on child rearing were rated by subjects for social desirability. These items were also categorized into four types of parents: disciplinarian, indulgent, protective, and rejecting. Items were paired if they had the same amount of social desirability and if they represented different types of parents. Ninety pairs were obtained; this constituted the Maryland Parental Attitude Sur-

vey. The instrument was administered to a large group, and means and *T* scores computed. Future research will be discussed.

- 10:10. Frequency, duration, and periodicity of voluntary absences of mother rats. THEODORE SCHAEFER, JR., *University of Chicago*.

Immediately after whelping, four mother rats, having access via runways to small cages containing food and water, were absent from their nest cages for brief (few seconds or minutes), evenly spaced periods (one per hour) totaling 1-12% of each day. Prior to whelping and by the fourth day after birth, the mothers were absent 40% of the time and for longer periods (three hours prior, one hour after birth), usually during the early morning and early evening hours. One mother, absent for long periods from the start, reared only one of seven pups whelped.

## Division 8. Independence and Conformity

9:00-9:50. Sheraton Room, Sheraton-Gibson

RICHARD CHRISTIE, *Columbia University*, Chairman

- 9:00. Three experiments in conformity. HARRY A. BURDICK, *Dartmouth College*.

In three separate experiments we studied conditions effecting conformity behavior. Two of the experiments involved an extension of the "simulated group atmosphere" technique, allowing for nearly total control of a group discussion. In these experiments we found that persons high in need for achievement conformed less and that, the greater the individual's certainty of her initial position, the less she conformed. Finally, we found we were able to manipulate situations in such a way as to make conformity instrumental or noninstrumental to the obtaining of specified "rewards." When made instrumental, we were able to predict its occurrence with accuracy.

- 9:10. The effect of reward on conforming and independent behavior. MARVIN J. FELDMAN AND RALPH BIERMAN, *University of Buffalo*.

In a modified Asch situation calling for judgment of lines, subjects were promised a dime for each correct response. Half the slides in the series contained one correct answer (A slides); half contained two correct answers (B slides). In one condition, a unanimous majority chose an incorrect response on A slides; in a second condition, the unanimous majority chose the correct response on A slides. In both conditions, the majority chose a correct answer on B slides. Comparable but nonrewarded control groups were also tested. Personal gain altered the impact of social pressure; however, the direction of change depended upon the validity of majority response.

- 9:20. Modes of conformity of southern white and Negro students. EUGENE L. GAIER, *Louisiana State University*.

Riesman has suggested that individuals in an inner-directed cultural context perceive and hold character traits in greater importance, whereas members subjected to other-directed cultural influence express greater concern with group acceptance, adjustment to the environment, and getting along with others. Two subgroups, southern white and Negro university students, were compared to assess the direction of conformity differences. The emergent results, based on listed personality assets and liabilities, support some of Riesman's observations, though showing marked effects of sex role expectancies.

- 9:30. Effect of invidious exclusion from a group on feelings toward self, others, and on tendencies to conform. JAY JACKSON AND J. DIEDRICK SNOEK, *University of Kansas and University of Michigan*.

This experiment attempts to provide evidence that with invidious exclusion from a desirable social group a need for reassurance is experienced by rejected persons. It was hypothesized that such a need would require a person to defend himself by moving toward the source of the rejection and that where increase of acceptance was not possible the person would function on an unreal level in relation to self and others. Defensive behavior and tendencies to conform increased with the degree of rejection. A curvilinear relation was found between rejection and feelings about other members, with strong forces toward the group acting only upon the highly rejected subjects.

#### Divisions 8 and 12. Symposium: Current Approaches to Alcohol Studies and Alcoholism

- 9:00-10:50. Pavillon Caprice, Netherland Hilton  
EDITH S. LISANSKY, *Yale University*, Chairman

#### Participants:

- C. M. FRANKS, *Neuro-Psychiatric Institute, Princeton, New Jersey*. The effects of alcohol on behavior.  
J. A. CARPENTER, *Yale University*. Current research needs in alcohol experimentation.  
A. D. ULLMAN, *Tufts University*. A sociological view of alcoholism.  
EDITH S. LISANSKY, *Yale University*. Current clinical research in alcoholism.

#### Division 12. Psychotherapy I

- 9:00-10:50. Parlors L and M, Netherland Hilton  
SEYMOUR KLEBANOFF, *VA Hospital, Montrose, New York*, Chairman

- 9:00. Quantitative studies of therapist verbal activity. BENJAMIN POPE, EDMUND S. HOWE, AND JACOB E. FINESINGER, *University of Maryland School of Medicine*.

Therapist verbal activity may be considered partly from the standpoint of frequency of response and partly from that of level of response (i.e., something intrinsic to what or how something is said). Low levels of verbal activity are reasoned to involve high ambiguity, low inference, and low topical lead; and vice versa. Using this definition, a scale of Level of Activity was constructed from ratings of therapist verbal responses, by 30 psychiatrists. The scale shows high objectivity, reliability, and face validity. It discriminates among five published initial interviews of differing theoretical orientation.

- 9:15. Psychotherapists' approach-avoidance reactions to patients' expression of hostility. ALBERT BANDURA, DAVID H. LIPSHER, AND PAULA E. MILLER, *Stanford University*.

Patient-therapist interaction sequences were coded for the number of times therapists responded with approach or avoidance reactions to the patients' hostility and also for the frequency with which patients continued to express further hostility immediately following the therapists' intervention. The results showed that (a) therapists who expressed their own hostility in direct forms and who displayed low need for approval were more likely to approach their patients' hostility than were therapists who expressed little direct hostility and who showed high approval-seeking behavior, (b) therapists were more inclined to avoid hostility when it was directed toward themselves than when the patients directed their hostility toward other objects, and (c) patients were more likely to drop the hostility topic or to change the object of their hostility following therapists' avoidance reactions than they were following the therapists' approach reactions.

- 9:30. Effects of interpretations on duration of utterances in the standardized interview. FREDERICK H. KANFER, JEANNE S. PHILLIPS, JOSEPH D. MATARAZZO, AND GEORGE SASLOW, *Purdue University and University of Oregon Medical School*.

The study investigated the hypothesis that interpretations have a different effect on the subjects' interactional behavior than exploratory (information-seeking) statements, apart from their impact due to content or veracity. The hypothesis was tested by introducing interpretations in the middle phase of a highly standardized interview with normals in an experimental group. Control subjects were given only exploratory statements throughout the interview. The

subjects' mean duration of utterances were measured by the Interaction Chronograph. The results revealed significant decreases in mean duration of utterances associated with the experimenter's interpretive statements, followed by increased duration of utterances in response to subsequent exploratory statements.

9:45. The movement from nonself to self in client-centered psychotherapy. LEIF J. BRAATEN, *Cornell University*. (Sponsor, Carl R. Rogers)

Seven theoretical hypotheses about movement from nonself to self in client-centered therapy were tested. A content analysis was performed of 56 transcribed interviews from the earlier and latter quarter of therapy. The major hypothesis that the "successful" client would increasingly deal with his private and interpersonal selves rather than nonself material was confirmed against the therapist rating of outcome. It was also established that both the therapist and the TAT-diagnostician would consider a case "successful" to the extent that he increasingly emphasized the immediate emotional expression of the self and the private, inner self rather than the interpersonal self.

10:00. Toward an analysis of the therapist's contribution to the treatment process. HANS H. STRUPP, *University of North Carolina School of Medicine*.

The therapist's personality has long been recognized as a variable in psychotherapy; however, the mainstream of psychoanalytic thinking has tended to characterize this influence as either tangential or antagonistic (countertransference) to interpretive operations, which have been considered the hallmark of analytic psychotherapy. This paper presents certain formulations about the therapist as a new model of reality which exerts a potent therapeutic force. Furthermore, the therapist's personality, attitudes, and values are hypothesized to influence his clinical evaluations, therapeutic formulations, and character of his communications. An attempt is made to outline further investigations of this problem.

10:15. Metaphysical interpretations in psychotherapy and personality theory. E. LAKIN PHILLIPS, *National Orthopedic and Rehabilitation Hospital, Arlington, Virginia*.

Metaphysical interpretations are common in recent as well as in earlier writings in psychotherapy and personality theory. Metaphysical interpretations are those seeking a "reality" behind observable phenomena. In psychology, sophistication regarding empirical procedures in studies of personality and psychotherapy exceeds sophistication regarding theory building and the use of meaningful and testable concepts. Clarifica-

tion of some of the theoretical and practical issues related to the use of metaphysical concepts in these areas is sought.

10:30. The mother-child interaction in psychosomatic disorders and severe emotional disturbances. CHARLES WENAR AND MARION W. HANDLON, *University of Pennsylvania School of Medicine and Chestnut Lodge*. (Sponsor, Ann M. Garner)

A multitechnique, reconstructive approach was used to test the hypothesis that mothers of severely disturbed children are more totally rejecting of them during infancy, while mothers of children with psychosomatic disorders focus their negative attitudes more specifically on physiological functioning. The hypothesis was confirmed. In addition, it was found that imperviousness to feeling and inappropriateness of interaction is characteristic of the mother-child relationship in the severely disturbed group, while domination and mutually frustrating entanglement is characteristic of the interaction in the psychosomatic group.

#### Division 16. Symposium: The Gifted and the Talented

9:00-10:50. Parlor 7, Sheraton-Gibson

MAY V. SEAGOE, *University of California, Los Angeles*, Chairman

##### Participants:

MIRIAM GOLDBERG, *Teachers College, Columbia University*. Underachievement among gifted children.

HARRIET O'SHEA, *Purdue University*. Friendship and the intellectually gifted child.

FREDERICK B. DAVIS, *Hunter College*. Identification of the gifted.

BORIS M. LEVINSON, *Yeshiva University*. The inner world of the gifted child.

T. ERNEST NEWLAND, *University of Illinois*. Giftedness and talent.

VIRGIL S. WARD, *University of Virginia*. Talent and giftedness.

#### Division 16. Symposium: The Interrelationship between School and Community Mental Hygiene Facilities

9:00-9:50. Parlors 4 and 5, Sheraton-Gibson

MARY ALICE WHITE, *New York Hospital-Westchester Division, White Plains*, Chairman

## Participants:

KATHERINE D'EVELYN, *Great Neck Board of Education, New York*. What the clinic or private practitioner needs to know about and from the schools.

BERNARD RIESS, *Postgraduate Institute for Psychotherapy, New York, New York*. What the private practitioner requires from and can offer to the school for effective evaluation and treatment.

MYRON W. HARRIS, *New York Hospital-Westchester Division, White Plains*. What the mental hygiene clinic requires from and can offer to the school for effective evaluation and treatment.

### Division 16. Symposium: Research Trends in Education and Planning for Mentally Retarded Children

9:00-10:50. Parlors 8 and 9, Sheraton-Gibson

HENRY PLATT, *Devereux Schools, Devon, Pennsylvania*, Chairman

## Participants:

JAMES J. GALLAGHER, *University of Illinois*. An experimental study on the educability of brain-injured, mentally retarded children.

DONALD E. P. SMITH, *University of Michigan*. The medical treatment of reading disorders: Mental deficiency.

JACK C. DINGER, *Altoona School District*. Post-school occupational and civic adjustment of special class pupils.

ROMAINE P. MACKIE, *United States Office of Education*. Educational programs for the mentally retarded: A preview of the future.

Discussant: WILLIAM ITKIN, *Chicago Board of Education*.

### Division 8. Race, Sex, and Constitution

10:00-10:50. Sheraton Room, Sheraton-Gibson

JOSEPH ADELSON, *University of Michigan*, Chairman

10:00. Personality and Negro-white intelligence.  
SHELDON R. ROEN, *University of New Hampshire*.

Suggested by the Supreme Court decision on school integration in which implied inferiority was taken into consideration, it was hypothesized that personality traits in Negroes would be more closely related to intellectual ability than would be true of whites. 50 Negro and 50 white soldiers were matched on nine biographical and socioeconomic variables. Measures of intellectual ability and personality (controlled for "test taking integrity") were obtained. The Negro

sample scored significantly lower than the white sample on tests of intellectual ability, but their intellectual performances correlated higher with personality test scores than did the white group.

10:10. A study of the relationship between physique and personality variables measured by the MMPI.

ALBERT B. HOOD, *University of Minnesota*.

The MMPI profiles of persons representing the extreme ends of the continua of height and of weight were compared according to both individual scales and high-point codes. Profiles of persons representing certain extremes of Sheldon's somatotypes were also compared in a like manner. Small but significant differences were found on certain of the scales in addition to some interesting differences among high-point codes. The high degree of relationship between physique and personality advanced by Sheldon was not substantiated. This study confirms the existence of such a relationship, but suggests that it is of a very small magnitude.

10:20. Tachistoscopic estimation of masculinity of somatotypes varying in mesomorphy component.

RONALD D. WYNNE, *Catholic University of America*. (Sponsor, John Townsend)

200 subjects were tachistoscopically shown six representative male somatotypes at each of seven levels of mesomorphy (after Sheldon). Subjects were required to make the judgment "masculine" or "feminine" for each slide presentation. Contrary to expectation, the highest percentage of "masculine" judgments was made on those physiques in the mid-range of the mesomorphy scale. The important components of these estimations have not been determined, although the data at the present time suggest that the ideal masculine form, as judged by our subjects, is not the somatotype with a high mesomorphy component (the Hercules type).

10:30. Cortical conductivity and sexual differences in perception: An extension of Barthol's study.

ELAINE JARMAN AND KENDON SMITH, *University of North Carolina Women's College*.

Barthol has reported significant  $r$ 's, negative for women and positive for men, between temporal threshold for simultaneity in phi and magnitude of kinesiographic figural aftereffect. He explains these results in terms of cortical conductivity and of sexual differences in cortical function. Barthol's techniques, employed with "feminine" and "masculine" female subjects to test a cultural explanation of his results, produced insignificant  $r$ 's for both groups and for all subjects together. The discrepancy between Barthol's and present results is attributed to minor procedural

differences. The potency of such differences is taken as evidence against a cortical-conductivity theory of perception.

#### **Division 12. Open Meeting: Discussion of Membership Standards**

10:00-11:50. Parlor 4, Sinton

Participants: Division 12 Executive Committee and chairmen of local discussion groups.

#### **Division 13. Symposium: The Research Potential of the Consulting Psychologist**

10:00-11:50. Hall of Mirrors, Netherland Hilton

CHARLES M. MORRIS, *Easton, Pennsylvania*, Chairman

Participants: KATHARINE B. GREENE, *Wayne County Marriage Counseling Center, Michigan*; NATHAN KOHN, JR., *Ladue, Missouri*; EDWARD M. GLASER, *Pasadena, California*; AND CHARLES M. MORRIS, *Easton, Pennsylvania*.

#### **Division 7. A Research on Identification: Progress Report**

11:00-11:50. Rookwood Room, Sinton

ROBERT I. WATSON, *Northwestern University*, Chairman

Participants:

RICHARD ALPERT, *Harvard University*. Measurement of identification behavior.

LUCY RAU, *Stanford University*. Identification and the mother-child relationship.

ROBERT R. SEARS, *Stanford University*. The father's role in identification.

Discussant: JEROME KAGAN, *Fels Research Institute*.

#### **Division 8. Attitude, Opinion, and Belief**

11:00-12:50. Parlors N and O, Netherland Hilton

RALPH H. TURNER, *Oberlin College*, Chairman

11:00. An operational distinction of belief and attitude. MARTIN FISHBEIN AND BERTRAM H. RAVEN, *University of California, Los Angeles*.

A scale was developed, based on Osgood's semantic differential, that permits the operational distinction of beliefs and attitudes. In line with recent theoretical formulations, attitude is defined as the evaluative dimension of a concept. Belief is similarly defined as the probability dimension. The instrument was empirically refined through the use of a role-play procedure. The necessity of this distinction is indicated by the

finding that there is no correlation between belief and attitude with respect to racial prejudice, extrasensory perception, or atomic fallout. In an additional validity check, belief was experimentally altered independent of attitude.

11:15. The interpretation of opinion statements as a function of recipient attitude. MELVIN MANIS, *VA Hospital, Ann Arbor, Michigan*.

When judging the position advocated in pro-fraternity and anti-fraternity statements of opinion, subjects who had committed themselves on this issue perceived the messages as reflecting more extreme views than did neutral subjects. When judging the position advocated in messages that were neutral on the fraternity issue, subjects assumed that the opinions expressed were relatively consonant with their own attitudes. These data support the hypothesis that the subject's attitude affects his interpretation of opinion statements. This relationship is complex, however, and depends upon the discrepancy between the subject's own position and the position advocated in the message.

11:30. Cognitive reorganization in response to the hypnotic alteration of attitudinal affect. MILTON J. ROSENBERG, *Yale University*.

Each of a group of hypnotically-trained subjects was given the posthypnotic suggestion that his affective reaction toward "foreign aid" would shift from positive to negative upon awakening and that his amnesia for the hypnotic session would persist for a full week. Once before, and on five occasions after, the hypnotic manipulation each subject was tested for both his affects toward and beliefs about "foreign aid" and two other unmanipulated control issues. All subjects showed significant changes in both their affects toward and beliefs about the attitude object for which they received the suggestion of affect-change. Some of these belief-changes persisted even after amnesia removal. These and other results are interpreted in the light of a structural theory of attitude dynamics.

11:45. Interpersonal ideology and international ideology. WILLIAM A. SCOTT, *University of Colorado*.

Eight scales for assessing orientations toward foreign policy were developed to correspond, conceptually, with eight scales designed to assess personal values, or moral ideals applied to interpersonal relations. These measures were administered to a probability sample of university students. In every case the foreign policy scales correlated higher with its corresponding personal value scale than it did with the average of all other personal value scales. This

result is interpreted as suggesting that ideologies for judging unfamiliar events on the international scene may represent, in part, extensions of ideologies used in evaluating the more familiar realm of interpersonal relations.

12:00. Dogmatism, time perspective, and anomie.

ALAN H. ROBERTS AND ROBERT S. HERRMANN,  
*Elgin State Hospital, Illinois, and Bureau of  
Medicine and Surgery, United States Navy.*

This study critically examines Rokeach's statements concerning the relationship between dogmatism and time perspective. Two alternative sets of hypotheses were tested: (a) High dogmatics will show greater mean differences on measures of confidence in predictions of the future than will low dogmatics. (b) High dogmatics will show greater variability on the measures described above, as well as greater anomie, than will low dogmatics. The results support the latter hypotheses suggesting that high dogmatics have less adequate or balanced time perspectives (as opposed to greater future-orientation) than do low dogmatics.

12:15. Objective measurement of aspects of intolerance of ambiguity. JOHN R. HILLS AND SAMUEL MESSICK, *Regents of the University System of Georgia and Educational Testing Service.*

Two "tab" tests were designed to measure the tendencies to reach perceptual closure quickly and to jump to generalizations. One involved the recognition of incomplete figures; the other involved the definition of words on the basis of a series of clues. The personality score was the average number of "tabs" lifted, i.e., the extent of a response set to lift tabs before answering. These scores were reliable and correlated significantly with each other, providing some construct validity for intolerance of ambiguity. Correlations with "content" and with "pure factor" ability reference tests were examined. *N* was 272 female, college preparatory, high school juniors and seniors.

12:30. Factors underlying opinions about mental illness in the personnel of a large mental hospital.

JACOB COHEN AND E. L. STRUENING, *VA Hospital, Montrose, New York.*

To determine the salient dimensions of attitude towards the mentally ill in the personnel of a large mental hospital, 70 Likert-type opinion items largely concerned with the cause, treatment, description, and prognosis of mental illness were anonymously administered to 541 employees. The items were factor analyzed using centroid extraction and quartimax rotation. Five factors were identified: A—Authoritarianism (submission to authority, mental patients a dangerous low status minority group); B—Unsophisticated Benevolence (paternalism); C—Mental Hy-

giene Ideology (treatment optimism, "pro"-patient); D—Social Restrictiveness (particularly concerning marriage); E—Interpersonal Etiology (particularly early love deprivation).

## Division 12. Assessment of Clinical Conditions I

11:00–12:50. Parlors L and M, Netherland Hilton

HAROLD WILENSKY, *VA Hospital, Montrose,  
New York, Chairman*

11:00. Nonverbal communication variables in the 3DPT. LEAH GOLD FEIN, *Norwalk Hospital, Norwalk, Connecticut.*

Nonverbal communication has received little attention in projective test literature. The axiom "actions speak louder than words" and the clinical fact that perplexed and withdrawn subjects communicate through "touching" when words fail them strongly suggest that nonverbal behavior variables in projective test situations can provide significant insights into personality functions if these behaviors are codified and standardized. In this study a series of nonverbal behavior variables elicited in the 3DPT were defined, codified, and statistically tested to demonstrate their potency in revealing and differentiating personality functions. The findings indicate that nonverbal test behaviors are consistent indices to personality functions.

11:15. Process analysis of Rorschach interpretation.

ANTHONY B. TABOR, *Loyola University, Chicago.*

An analysis of the process by which Rorschach analysts proceed from raw data to a diagnosis revealed marked concurrence in certain aspects of their procedure. 30 skilled analysts were tested on a rank ordering of Rorschach data on three protocols: schizophrenic, organic, and normal. A high level of consistency was found in the evaluation of the significance of various scoring categories and in the rank order of procedure from quantitative to qualitative data. Numerical measures of efficiency differentiated levels of interpretive skill. Four types of diagnostic approaches were distinguishable along with striking individual variations ranging from near-random to extremely rigid.

11:30. The generality of reported and observed anxiety in a female psychiatric sample. RITA WERTHEIMER, E. JOSEPH CHARNY, AND CONSTANCE NEWBURY. *Einstein Medical College, Yeshiva University, and Western Psychiatric Institute, University of Pittsburgh.*

Female hospitalized psychiatric patients who were able and willing to talk about and display manifest

anxiety did so consistently in three separate clinical situations. Observed and reported anxiety was evaluated by psychiatric residents using the same rating procedure in a diagnostic conference which included a clinical interview, and during the epinephrine-mecholyl test where anxiety was very often liberated. The Taylor Anxiety Questionnaire was used as the third anxiety measure. When ranks were assigned to the anxiety indices and compared, the three clinical evaluations based on observed and reported anxiety manifestations were found to be significantly related.

11:45. An analysis of suicidal MMPI data. NORMAN L. FARBEROW AND EDWIN S. SHNEIDMAN, *VA Center, Los Angeles, California.*

This paper presents the results of an item analysis and a subset analysis of 259 MMPI answer sheets obtained from suicidal and nonsuicidal male adult Caucasian subjects, designated as follows: 80 psychiatric subjects who subsequently committed suicide, 16 psychiatric subjects who subsequently attempted suicide, 32 psychiatric subjects who previously had attempted suicide, 32 psychiatric subjects who previously had threatened suicide, 32 psychiatric nonsuicidal subjects, and 67 nonpsychiatric nonsuicidal subjects. Significant items and subset clusters are discussed, especially with respect to indicating prodromal clues and indices which characterize individuals who manifest various types of suicidal behavior.

12:00. A supplement to the Word Association Test: The Added Association Procedure. STEPHEN A. APFELBAUM, *Menninger Foundation.*

The Added Association Procedure follows the administration of the usual word association and reproduction tests and consists of the list being read again with the instruction to give the first word that comes to mind which is different from the previous one. The new task requires the patient not only to respond quickly but to suppress a more valent, often overlearned response which, among other uses, may have defense value. Therefore, the new responses are more likely to reflect personal and idiosyncratic response tendencies including evidence of impairment of thought process, richer content, and information about the repertoire and strength of character attitudes.

12:15. Prediction of successful suicide from the Rorschach, using a sign approach. PAUL G. DASTON AND GEORGE A. SAKHEIM, *VA Hospital, Durham, North Carolina, and VA Hospital, Brockton, Massachusetts.*

Rorschach protocols of actual suicides were compared with those of attempted suicides and nonsuicide controls, all from psychiatric populations. A sign

approach developed and replicated by Martin was used. Six signs differentiated successful suicides from controls at statistically significant levels. Only one differentiated attempted from actual suicides. Sign totals obtained by each suicide group were significantly higher than controls. Cutoff at "6 or more" signs classified correctly 83% of controls, 72% of attempted, and 82% of successful suicides. Findings are discussed relative to base rates and personality characteristics of suicide-prone individual inferred from Rorschach variables.

12:30. A verbal TAT in written and spoken form. P. JAMES SHERRY AND DELL LEBO, *Richmond Professional Institute and Child Guidance and Speech Correction Clinic, Jacksonville.*

A pictureless or verbal TAT has many advantages. Among them are increased ambiguity, standardized group administration, easier inter- and intracultural comparisons, and projective testing of the blind. To test the effectiveness of the descriptions in Murray's manual as substitutes for the cards, they were presented individually to 40 persons. 10 were read by the subjects, and 10 were read to them. Statistical analyses revealed that the visual descriptions were nonsignificantly superior to the vocal. Although the descriptions were not intended to replace the cards, both methods of presentation were effective according to the dozen objective measures employed.

## Division 12. Symposium: The Process and Goals of Supervision in Clinical Psychology

11:00-12:50. Pavillon Caprice, Netherland Hilton

ROBERT S. MORROW, *VA Hospital, Bronx, New York,*  
Chairman

### Participants:

LEONARD BERNSTEIN, *VA Hospital, Brooklyn, New York.* Supervision as perceived by those who are being supervised.

BERNARD KALINKOWITZ, *New York University.* Training and supervision in psychotherapy.

FLORENCE HALPERN, *University Hospital, New York.* Training and supervision in diagnostic testing.

ANNE ROE, *New York University.* Supervision as perceived by the training supervisor and university consultant.

## Division 16. Contributed Papers I

11:00-11:50. Parlor 6, Sheraton-Gibson

R. H. TINDALL, *Milwaukee Public Schools,* Chairman

- 11:00. Underachievers of average intellectual ability: Effects of special teaching on academic achievement, discipline, and goal setting. SUE ALLEN WARREN AND LAURENCE IANNACONE, *Oregon Fairview Home and Columbia University*.

Two groups of underachievers of average ability were followed for two years, using different teaching techniques. These two experimental groups were compared with matched control groups assigned to regular heterogeneous classes. Experimental Group I was grouped and given remedial instruction in otherwise regular classrooms. Experimental Group II was grouped and given remedial instruction in a modified democratic atmosphere. Comparable forms of standardized achievement tests were administered regularly, discipline records evaluated, and goal-setting behavior and parental expectations compared with "average" students. Experimental Group II showed statistically greater achievement and differed in goal-setting behavior.

- 11:10. The utility of the Progressive Matrices Test (1956 revision). RONALD BROWN, DONALD HAKES, AND LESLIE F. MALPASS, *Southern Illinois University*.

Groups of educable mentally retarded children from five Illinois communities, their normal controls, and institutionalized retardates were administered the PMT and the WISC; and the controls were also given the California Mental Maturity Test. Age was partialled out, and differences between subgroups were investigated. All testing was done individually; and records were kept concerning administration, subject involvement, scoring ease, and similar considerations. Correlations ranged from .39 to .49 for the PMT with the WISC; and from .51 to .61 with the CMMT. Significant differences between institutionalized and noninstitutionalized retardates were found. In spite of the low correlations, ease of scoring and its nonverbal character recommend the adjunctive use of the PMT.

- 11:20. Classroom screening for emotional disturbance. SAUL COOPER, WILLIAM RYAN, AND B. R. HUTCHESON, *South Shore Guidance Center, Quincy, Massachusetts*.

This paper describes the development and testing of an observational screening instrument for identifying emotionally disturbed children in the classroom setting. The specific hypothesis tested was that emotional disturbance is manifested in classroom behavior and identifiable by observation of this behavior. Ratings on a check list of 37 discrete items provided a Classroom Disturbance Index, which proved to be a reliable measure. Psychiatric evaluation provided a

criterion of emotional disturbance. Comparison of Classroom Disturbance Index and Psychiatric Pathology Rating on 30 children indicated a positive correlation. Results suggest that classroom observation can be used efficiently to screen for emotional disturbance.

- 11:30. A projective test for school psychologists. M. STEPHEN SHELDON, *Colorado State College*.

A new projective test is presented which is aimed at utility in the secondary schools. The test gives scores which indicate the relative acceptance a pupil feels in five interpersonal relationships in a secondary school setting. The interpersonal relationships measured are those of the pupil with teachers, principal, counselor, other pupils of the same sex, and other pupils of the opposite sex. The test is described and suggestions are made for its potential usefulness.

#### Division 16 Research Committee. Open Meeting

11:00-12:50. Parlors 4 and 5, Sheraton-Gibson

WILLIAM ITKIN, *Board of Education, Chicago*,  
Chairman

#### THURSDAY AFTERNOON, SEPTEMBER 3

##### Division 7. Learning, Intelligence, and Cognitive Processes in Children

1:00-1:50. Rookwood Room, Sinton

JOHN CONGER, *University of Colorado Medical School*, Chairman

- 1:00. Effects of verbal reinforcement combinations on learning in children. CAROLYN CURRY, *Indiana University*. (Sponsor, Alexander M. Buchwald)

Six groups of children, three of girls and three of boys, matched for grade and IQ level, each received one of three verbal reinforcement combinations—Right-Wrong (RW), Right-Nothing (RN), or Nothing-Wrong (NW)—while learning a sorting task. They were required to sort first on a color basis then to shift to a number basis. The RN groups made significantly more errors for both sortings than the RW or NW groups. The latter two had similar rates of learning. Results are in agreement with those found in studies of adults. A significant sex difference was found for original learning with no significant differences in IQ level. The relative reinforcement value of various reinforcement combinations are established early in life.

- 1:10. A development study of choice behavior. J. V. DENNY AND A. E. GOLDMAN, *Norristown State Hospital*.

This investigation conceives of the development of intelligent choice behavior in terms of the emergence of qualitatively different processes. A genetically more advanced process is required by a sequential task (RRLL) than a probability task (75:25). 240 boys, ages 5 to 15, were given either a sequential or a probability task by means of a specially devised binary choice apparatus. Performance in the probability task was invariant with age and IQ. In the sequential task, performance increased significantly with age and IQ.

1:20. The acquisition of concepts following the strengthening of various steps in the mediation chain. D. D. KLUPPEL AND WENDELL E. JEFFREY, *University of California, Los Angeles*.

Three different procedures for providing mediational responses were used to test Osgood's explanation of the different learning rates for different concept types as demonstrated by Heidebreder. The following paradigms were used: Group I, A-B, A-C; Group II, B-C, A-C; and Group III, A-B, B-C, A-C—where A is six of the Heidebreder stimuli, B the appropriate concept label, and C is a color name. Significant *F*s were obtained for treatments and for concepts, but not for the predicted treatment by concepts interaction. These data are interpreted as being in disagreement with the mediation hypothesis.

1:30. A longitudinal comparison of sibling and non-sibling development in intelligence. EDWARD CLIFFORD, *University of Colorado Medical School*.

Much of our information about intellectual development has come through the use of cross-sectional studies. When approached longitudinally, aside from problems of variation in IQ, methodological problems arise in comparing groups of children. These problems center about the type of comparison to be made, i.e., whether the highest, lowest, or mean score is used in the comparisons or whether the range of scores is used. The present study examines the degree of intellectual resemblance existing between a group of siblings and a group of nonsiblings studied longitudinally. Results seriously question prevalent opinions concerning sibling similarity in intelligence.

#### Division 8. Achievement and Affiliation Motives

1:00-1:50. Parlors N and O, Netherland Hilton

HARRY LEVIN, *Cornell University*, Chairman

1:00. Aspects of need achievement related to the recall and repetition of failures. STANLEY COOPER-SMITH, *Wesleyan University*.

Four groups of subjects, representing significantly different types of self-esteem, were individually pre-

sented with a series of 12 tasks, half of which were failed. Analysis of the projective material and subsequent recall and repetition revealed that the self-esteem groups differed in total positive and negative aspects, as well as in subcategories of achievement motivation. These differences were found to be related to the repetition but not the recall of failures.

1:10. Need achievement, fear of failure, and selective recall. WALTER R. REITMAN, *Carnegie Institute of Technology*.

Under achievement-orientation, moderate need achievement scores—previously found associated with evidence of "fear of failure"—appear related to high recall of success and irrelevant stories and to low recall of failure stories. A second study shows moderate need achievement again associated with low recall of failure stories under achievement-orientation, but also, as predicted, with high recall of the same stories under neutral orientation. From these results, need achievement appears a complex variable yielding several distinct score categories, each of which may be characterized by "emergent" qualities (e.g., "fear of failure") not linearly associated with need achievement scores.

1:20. The effects of schedule of reinforcement and level of achievement motivation on reactions to a testing situation. ELISABETH F. GODING, *University of North Carolina*.

In Zeigarnik-type studies, the subject's level of achievement motivation has been shown to be related to his recall of failed tasks. Alper and Atkinson have differed greatly in their interpretation of this finding. The present work attempts to ascertain whether a higher level of achievement motivation is more similar in effect to success or failure experiences with an intellectual task. A small-groups laboratory experiment was carried out in which it was possible to measure the effects of a prearranged history of success or failure and of a given level of need achievement motivation on perception of own performance and on risk-taking behavior.

1:30. Effects of sex, norms, and affiliation motivation upon accuracy of perception of interpersonal preferences. RALPH V. EXLINE, *University of Delaware*.

Hypotheses concerning reasons for earlier reported female superiority in accurate perception of interpersonal relations were tested in 24 groups controlled for sex, *n* affiliation, acquaintance, and norms concerning sensitivity to interpersonal relations. Results showed significant differences in accurate social perception to be associated with the interaction of *n* affiliation and

sensitivity norms. No sex differences were found. It is suggested that a affiliation and norm instructions combined to differentiate groups as to their attention to cues signifying interpersonal preferences. The data suggest that a curvilinear relationship exists between degree of attention and accurate perception of interpersonal preferences.

#### Division 8. Symposium: Recent Conceptions in Influence and Authority Process

1:00-2:50. Hall of Mirrors, Netherland Hilton

JOHN G. DARLEY, *University of Minnesota*, Chairman

##### Participants:

K. W. BACK, *Duke University*. The role of communication processes.

J. R. GIBB, *National Training Laboratories, Washington, D. C.* Effects of interpersonal defenses on the influence process.

J. K. HEMPHILL, *Educational Testing Service*. The concept of initiating structure in interaction.

E. P. HOLLANDER, *Washington University*. Interpersonal expectancies in the assertion and acceptance of influence.

#### Division 12. Symposium: A Current Appraisal of Relations Between Clinical Psychology and Medicine: Some Points of View

1:00-2:50. Pavillon Caprice, Netherland Hilton

JOHN M. HADLEY, *Purdue University*, Chairman

##### Participants:

NORMAN S. GREENFIELD, *University of Wisconsin*. The medical school setting.

MARVIN ZUCKERMAN, *Institute for Psychiatric Research, Indiana University*. The interdisciplinary research setting.

ARCHER L. MICHAEL, *Milwaukee County Hospital, Wisconsin*. The mental hospital setting.

SAMUEL H. FRIEDMAN, *Veterans Administration, Wood, Wisconsin*. The legislative setting.

Discussant: CHARLES FEUSS, *Longview State Hospital, Ohio*.

#### Division 13. Symposium: How to Go into Private Practice

1:00-2:50. Parlors L and M, Netherland Hilton

KARL F. HEISER, *Glendale, Ohio*, Chairman

Participants: JAMES F. BUGENTAL, *Los Angeles, California*; HELEN THOMPSON, *New York City*; SYVIL MARQUIT, *North Miami, Florida*; JEAN McQUEEN DEVENING, *San Marino, California*; AND KARL F. HEISER, *Glendale, Ohio*.

#### Division 16. Contributed Papers II

1:00-1:50. Parlor 6, Sheraton-Gibson

PAUL L. HILL, *Millburn Township Schools, New Jersey*, Chairman

1:00. Psychosexual identification and academic skill patterns. ALBERT N. BERENBERG, *New Lincoln School, New York City*.

The psychosexual identification of boys and girls with differing skill patterns was studied. It was found that, with respect to psychosexual identification, the more verbally skilled girls resembled the more arithmetically skilled girls significantly more than they resembled either of the male groups. Similarly, the more verbally skilled boys resembled the more arithmetically skilled boys significantly more than they resembled either of the female groups. The findings indicate that the specific achievement skills studied are more significantly related to the actual sex of the individual than to his psychosexual identification.

1:10. Religious factors in the role of guilt in parental acceptance of retarded children. GERALD H. ZUK, *Christopher's Hospital for Children, Philadelphia*.

In a nonsectarian children's hospital 76 mothers, divided about equally into Catholic and non-Catholic groups, were rated on levels of acceptance of their retarded children by an experienced social worker at initial contact. These ratings, themselves unrelated to levels of intelligence and social status of the mothers, correlated significantly with the religious background. The major finding, showing that Catholic mothers were judged to have more acceptance than non-Catholic mothers, is explained by the hypothesis that Catholic mothers tend to experience less conscious guilt in the birth of a defective child because there is a specific religious injunction against their assuming personal responsibility. The implications of this finding for counseling parents of retarded children are explored.

1:20. Effectiveness of short-term group therapy for high school students. WILLIAM J. RUZICKA, *Kansas State Teachers College*.

Two groups of tenth grade students, chosen because of mild personal or social maladjustment, had ten group sessions consisting of the showing of three films and subsequent discussion. These students were compared with a control group in terms of changes in self-perception and social adjustment. Pretesting of both the experimental and control groups was done using a self-insight scale, a generalized-other insight scale, and a sociometric evaluation. These same evaluations were made for both groups at the conclusion

of the experimental groups' therapy sessions. The nature of changes is presented.

- 1:30. Sex differences in aspiration and performance of gifted adolescents. ELIZABETH DREWS, *Michigan State University*.

Studies of gifted children and adolescents often report results based on the entire population of superior young people and thus obscure sex differences. Research discussing characteristics of high and low achievers and studies dealing with aspiration level are particularly inaccurate when results on boys and girls are not reported separately. This report is concerned with the characteristic differences in academic achievement and aspiration level (both educational and vocational) in gifted adolescent boys and girls. Special emphasis will be given to the conflict between intellectual and feminine roles as this conflict influences achievement and aspiration in gifted adolescent girls.

#### Divisions 2, 9, and 15. Symposium: Recent Social Change and Its Impact on American Education

2:00-4:50. Ballroom, Sinton

DONALD BROWN, *Bryn Mawr College*, Chairman

Participants: JEROME S. BRUNER, *Harvard University*; ROBERT J. HAVIGHURST, *University of Chicago*; WILLIAM PRENTICE, *Swarthmore College*; AND PHILIP E. JACOB, *University of Pennsylvania*.  
Discussants: RALPH W. TYLER, *Center for Advanced Study in the Behavioral Sciences*; NEVITT SANFORD, *University of California, Berkeley*; AND JOSHUA A. FISHMAN, *University of Pennsylvania*.

#### Division 7. Audience Sensitivity in Children

2:00-2:50. Rookwood Room, Sinton

MARIAN RADKE-YARROW, *National Institute of Mental Health*, Chairman

- 2:00. The measurement of children's sensitivity to audiences. SEYMOUR M. BERGER AND ALFRED L. BALDWIN, *Trinity College and Cornell University*.

A Children's Audience Sensitivity Inventory was developed to measure individual differences in reactions to the presence of an audience. The inventory contains two orthogonal factors, labeled "exhibitionism" and "self-consciousness," and a third, "audience anxiety" scale. Empirical validation of the inventory involved a camp situation in which children volunteered for performance in a skit. "Exhibitionism" cor-

related significantly with volunteering scores (as rated by camp counselors) for boys; "self-consciousness," for girls; and "audience anxiety" correlated significantly for both sexes. Test anxiety and manifest anxiety scores were also significantly related to volunteering.

- 2:10. The influence of listeners on children's speech.

HARRY LEVIN AND MARY GALLWEY, *Cornell University*.

Speech behavior of children representing extremes on two personality variables, exhibitionism and self-consciousness, was studied in a program of research on pride and shame in children. 48 fifth and sixth grade children told two stories to a single adult who had just previously interacted with the child in an accepting manner and two stories to six strange adults. Children speak more rapidly and briefly before the audience. In private, low exhibitionistic children tell longer stories than highs; in public, this difference is reversed. Most speech errors are made by children high on both exhibitionism and self-consciousness.

- 2:20. Child-rearing antecedents of audience sensitivity. ALLAN PAIVIO, *Cornell University*. (Sponsor, Alfred L. Baldwin)

"Exhibitionism" and "audience sensitivity" (approach and avoidance tendencies with respect to performance before audiences) of children, measured by questionnaire scores and by written compositions, were related to child-rearing data obtained from parents. Results of one study (significant primarily for boys) indicated that children of highly rewarding and nonpunitive parents are least sensitive to audiences and most exhibitionistic. In a second study, children whose social behavior and achievements were favorably evaluated and whose failures were infrequently punished by parents had significantly lower audience sensitivity scores than those evaluated unfavorably and punished frequently for failures.

- 2:30. Children's reactions to being watched during success and failure. ELINOR S. WARDWELL, *Smith College*. (Sponsor, Harry Levin)

Sixth grade school children's reactions to being watched while taking an auditory "memory test" were related to: amount of watching by an adult observer (0%, 45%, 90% of the time); manipulated success or failure, publicly signaled by colored lights; sex; past school achievement; and need for achievement. Significant relationships were found between these variables and subjects' interpretations of and preferences for or against being watched, with reciprocated looking, and with actual success in the test.

**Division 8. Occupations and Professions**

2:00-2:50. Parlors N and O, Netherland Hilton

ANNE ROE, *New York University*, Chairman

2:00. Occupational choice and cognitive functioning:

A study of the career aspirations of highly intelligent and of highly creative adolescents. J. W. GETZELS AND P. W. JACKSON, *University of Chicago*.

This research extends an earlier study of two types of gifted adolescents—those exceptionally high in IQ but not in creativity ( $n = 28$ ) and those exceptionally high in creativity but not in IQ ( $n = 26$ )—by comparing their career aspirations and their cognitive functioning. Differences in the quantity and quality of occupational goals and in attitudes toward success and teacher preferences were found to parallel the differences in cognitive functioning. Guilford's concepts of "convergent" and "divergent" activity are applied to the findings, and the parallel between the socially-oriented and intellectually-oriented behavior is discussed with reference to personality theory and giftedness.

2:10. Intolerance of ambiguity as a factor in medical education. STANLEY BUDNER, *Columbia University*.

A number of hypothesized correlates between individual differences on a scale measuring tolerance-intolerance of ambiguity and the medical values and expectations held by medical students were tested. Students who were intolerant of ambiguity preferred obstetrics-gynecology and surgery most, psychiatry least. Such students also tended to oppose therapeutic abortions and to reject the possibility that a physician might be wrong and a nurse or patient correct in a question of diagnosis or therapy. Evaluations of preferred fields of practice along a structured-unstructured continuum were positively associated with the degree of intolerance-tolerance of ambiguity.

2:20. The changing self-images of research scientists. BERNICE T. EIDUSON, *Hacker Foundation for Psychiatric Research and Education, Beverly Hills, California*.

This paper describes an investigation of how research scientists see themselves as scientists. 40 research scientists in the fields of the natural sciences, all at work in university or academic installations, were studied by depth interviews. Interview data were subjected to content analysis. This paper presents the major self-images which are shared by the members of this vocational group and discusses how their notions about themselves meet their ideas about what

scientists ideally should do, and what compromises with these ideals have emerged in actual function and philosophy. The relationship of some of the institutionalized practices of science, especially those reflecting the ways success is achieved, to changes in the self-images is discussed.

2:30. College student images of key occupations.

DAVID C. BEARDSLEE AND DONALD D. O'DOWD, *Wesleyan University*.

The images of 15 high-level occupations held by male and female college students were examined by means of a questionnaire. Random samples of all freshman and senior students were asked to complete the questionnaire at an all-male and at an all-female college. Return of completed questionnaires averaged 85%. Images of scientist, doctor, college professor, sales manager, and social worker were compared within and between groups with specific attention to the attitudes expressed toward different occupational areas. The comparisons of different occupations illuminate findings obtained in studies of single occupations.

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**APA Public Information Committee. Workshop on Professional Affairs: Problems and Responsibilities of Psychologists in the Use of Mass Media of Communication**

3:00-4:50. Parlor G, Netherland Hilton

ANNE ANASTASI, *Fordham University*, Chairman

Representative from each state association to be invited.

**Division 7. Social and Emotional Development**

3:00-4:50. Rookwood Room, Sinton

DAVID PALERMO, *University of Minnesota*, Chairman

3:00. Activity in the human neonate. NORMA S. GORDON AND RICHARD Q. BELL, *National Institute of Mental Health*.

The results of a study of 32 normal, white, first-born males, at four days of age, indicated that activity while asleep and activity while awake were measures of different underlying processes. An analysis of 37 measures of infant behavior showed that measures of the two kinds of activity loaded significantly on two orthogonal factors which in turn defined end points of an arousal continuum running from measures of depth of sleep to states of irritability in which rapid and loud crying were shown. 23 of the 37 behavior measures loaded significantly on one of the two factors. Many were measures not previously considered as indices of level of arousal.

## 3:10. Selective stability of childhood behaviors.

HOWARD A. MOSS AND JEROME KAGAN, *Fels Research Institute, Yellow Springs, Ohio.*

A sample of 25 boys and 32 girls were rated for the strength of 16 behaviors over the first six years of life. Initially, all children were rated for ages 0-3. Following an interval, all children were then rated for ages 3-6. The ratings were based on reports of observations of the child in the home and in a nursery school. Correlations between the ratings for the two age periods revealed that a cluster of three variables involving passive-dependency was the most stable set of behaviors over the first six years of life.

3:20. Sex and milieu influences in children's concepts of misconduct. PAUL V. GUMP AND JACOB S. KOUNIN, *Wayne State University.*

First grade children (200 girls and 215 boys) were interviewed regarding attitudes toward misconduct at both home and school. There were no sex differences in types of misbehaviors of concern to children at home (physical assaults, rules, violations, etc.); but boys showed different qualities in home misconducts (more seriousness, premeditation, etc.). The impact of school on both sexes was in the direction of moderation (less aggressivity, less of both trivial and serious offenses, etc.). However, school had a much greater moderating effect upon girls than upon boys (relatively more increase in rule violations and decrease in physical assaults and destructiveness).

3:30. Psychological health and classroom functioning: A study of dissatisfaction with school among adolescents. PHILIP W. JACKSON AND JACOB W. GETZELS, *University of Chicago.*

This investigation examines the differences in psychological functioning and classroom effectiveness between two groups of adolescents: those who are satisfied with their recent school experiences and those who are dissatisfied. The major findings point to: (a) the relevance of psychological health data rather than scholastic achievement data in understanding dissatisfaction with school; (b) the importance of differentiating the attitudes of dissatisfied girls from those of dissatisfied boys—the former being characterized by feelings of personal inadequacy; the latter, by feelings critical of school authorities. Rosenzweig's concepts of intropunitiveness and extropunitiveness are applied to these findings, and a relevant theoretical framework is proposed.

3:40. Activity settings and behavior of children at school in communities differing in size. DEAN H. KERKMAN AND HERBERT F. WRIGHT, *University of Kansas.*

As one phase of research on children in City and Town, central United States communities of medium and small size, this study surveys activity settings and behavior of first-through-sixth graders in a school of each community. Data from observation and logs kept by school personnel demonstrate City versus Town differences in settings available, settings actually entered over different periods of time, and such properties of settings as stability and heterogeneity. Data obtained by a time-lapse photographic technique describe standing behavior patterns of classroom settings in City and Town. Implications for the psychological ecology of community size are suggested.

3:50. A developmental examination of pupil rating behavior on a scale measuring social relationships. WILLIAM J. MEYER AND JOHN DE JUNG, *University of Pittsburgh and Personnel Research Branch, Department of the Army.*

Pupils in each of Grades 5 through 12 rated their classmates' need-satisfaction potential on the social needs of succorance and palymirth. Using the Syracuse Scales of Social Relations, grade trends based on over 300 intrarater correlations identify junior high school pupils as the more differentiating group in their use of the two scales, i.e., less halo effect. A sample of raters also estimated the ratings they would receive from their classmates on the two scales. The  $r$ 's between the expected and actual ratings are similar to the  $r$ 's between the actual ratings. Possible correlates with sex-social development are considered.

4:00. Personality correlates of manifest anxiety in children. LUCIANO L'ABATE, *Michael Reese Hospital, Chicago, Illinois.*

Anxiety level should be related to personality measures of adjustment. Children discharge anxiety in various ways. The concurrent and construct validity of McCandless' Manifest Anxiety Scale for Children was evaluated in relation to Rogers' Test of Personality Adjustment and to teachers' ratings of overall adjustment, daydreaming, and rebelliousness. Children from Grades 4-8, selected on the basis of average and better than average intelligence, were subjects. No significant relationships were found between anxiety and personality variables. Marked sex differences in discharging anxiety were noted. Girls tend to handle anxiety by increased daydreaming, while boys tend to discharge it motorically.

4:10. Techniques for the developmental study of verbal communication and role playing. JOHN H. FLAVELL, CHARLES L. FRY, AND JOHN W. WRIGHT, *University of Rochester.*

This paper describes three tasks recently constructed for use in studying the development of these abilities.

In the first task, the child attempts to communicate the rules of a simple game to an adult who occupies either one of two drastically different listener roles: blindfolded versus sighted. The second task involves a zero-sum two-person game between child and experimenter which measures the child's capacity to recognize the strategy of his opponent. The third task taps the child's capacity to inhibit his own role in order to interpret a series of pictures as another individual would interpret them.

#### Division 8. Verbal Reinforcement

3:00-3:50. Parlors N and O, Netherland Hilton

JARVIS BASTIAN, *University of Michigan*, Chairman

3:00. Increase in the strength of a factor analytic personality trait through operant conditioning. ARTHUR W. STAATS, CAROLYN K. STAATS, AND WILLIAM G. HEARD, *Arizona State University*.

This study tested the hypothesis that personality traits found through factor analysis are classes of responses which may be operantly conditioned. The Guilford-Zimmerman factor of sociability was used. In an experimental situation, items were individually presented to subjects. The subject's responses which indicated sociability were reinforced by the experimenter's saying "good." Answers indicating sociability increased in frequency, i.e., reinforcing the response to one item strengthened other "sociable" responses. This suggests that the psychological process underlying a factor consists of a unified class of responses and that personality traits are classes of responses which develop according to principles of operant conditioning.

3:10. Conditioning of opinions about capital punishment as a function of verbal and nonverbal reinforcement. PAUL EKMAN, *Fort Dix, New Jersey*.

Two types of reinforcement—a verbal statement "good," and a nonverbal head nod, smile, and slight movement forward—were used to condition negative opinions about the use of capital punishment. In addition to the majority of the subjects who had conditioned in the predicted direction, a substantial number of subjects in both experimental groups showed inverse conditioning, increasing the response which was not reinforced. The two reinforcing stimuli differed only in regard to the inverse conditioning subjects, where the ambiguity of the nonverbal stimulus led to more inverse conditioning. Factors which might have determined whether a subject increased or decreased the response which was reinforced were also considered.

3:20. Effect of schedule of reinforcement on attitude development. CAROLYN K. STAATS, ARTHUR W. STAATS, AND WILLIAM G. HEARD, *Arizona State University*.

S-R theorists have proposed that attitudes be considered implicit responses. Previous studies have classically conditioned attitudes to national names without the subjects' awareness by pairing the visually presented names with different auditorially presented words having the same type of evaluative meaning. Using the same procedure, the present study tested the effect of ratio of reinforcement on intensity of conditioned attitudes and upon extent of subjects' awareness of conditioning. The results agree with basic research findings on the principles of conditioning, i.e., acquisition of the attitudinal responses was a function of percentage of reinforcement; however, awareness was not. Both results have implications for communication and propaganda.

3:30. Responsivity to verbal conditioning as a function of emotional atmosphere and pattern of reinforcement. ROBERT L. WEISS, LEONARD KRASNER, AND LEONARD P. ULLMANN, *Stanford University and VA Hospital, Palo Alto, California*.

Verbal conditioning offers a behavioral measure of responsivity to interpersonal cues. This study tested the effect on the subject's use of emotional words of (a) subject's emotional attitude toward the experimenter and (b) the experimenter's reinforcement of subject's verbalizations. Using 80 college students, these dimensions were experimentally manipulated. The experimenter induced hostility in half the subjects by being antagonistic during an "interview." The experimenter interacted pleasantly with the other subjects. After this, half the subjects in each atmosphere were reinforced for emotional words; the other half, not. Both hostile atmosphere and nonreinforcement yielded significant decrease in responsivity. The interaction between the two variables was insignificant.

#### Division 8. Symposium: The Perceiver in Person Perception

3:00-4:50. Parlors L and M, Netherland Hilton

PAUL F. SECORD, *University of Nevada*, Chairman

##### Participants:

- E. GOLLIN, *Queens College*. Cognitive dispositions and the formation of impressions of personality.
- R. LAForge, *University of Illinois*. Rater variance in ratings of persons.
- R. M. LUNDY, *University of Wisconsin*. Liking people and seeing them as similar to ourselves.
- D. SHAPIRO, *Harvard Medical School*. Contexts in person perception.

**Divisions 9, 12, and 13. Symposium: The Certification of Psychologists: A Re-examination of Its Professional and Social Implications**

3:00-5:50. Pavillon Caprice, Netherland Hilton

FILLMORE H. SANFORD, *University of Texas*,  
Chairman

Participants: JANE D. HILDRETH, *APA Central Office*; G. R. WENDT, *University of Rochester*; THEODORE M. NEWCOMB, *University of Michigan*; JOHN HARDING, *Cornell University*; AND MILTON SCHWEBEL, *Post-graduate Center for Psychotherapy*.

Discussants: CYNTHIA P. DEUTSCH, *New York University-Bellevue Medical Center*; AND STUART W. COOK, *New York University*.

**THURSDAY EVENING, SEPTEMBER 3**

**Divisions 16 and 22 and Chicago Public Schools Bureau of Child Study. Dinner Meeting: Sixty Years of School Psychology**

7:00. Sheraton Room, Sheraton-Gibson

WILLIAM M. CANNING, *Bureau of Child Study*,  
Chairman

BOYD R. McCANDLESS, *Iowa Child Welfare Research Station*. Significant Developments in School Psychology.

**Division 7. Invited Address**

8:00. Ballroom, Sinton

LEON YARROW, *Family and Child Service, Washington, D. C.* Maternal Deprivation: Toward a Conceptual and Empirical Re-evaluation.

Discussants: ROBERT R. SEARS AND JOSEPH MCV. HUNT.

**Division 8 and International Council of Women Psychologists. Invited Address**

8:00-8:50. Pavillon Caprice, Netherland Hilton

DOROTHEA EWERS, *Crete, Illinois*, Chairman

S. I. HAYAKAWA, *San Francisco State College*. The Self-Image and Intercultural Understanding.

**FRIDAY MORNING, SEPTEMBER 4**

**Division 8. The Self-Percept**

9:00-9:50. Parlors L and M, Netherland Hilton

JUDY F. ROSENBLITH, *Brown University*, Chairman

9:00. An experimental study of the relation between perception of self and perception of another. HENRY J. LAMBIN, JR., *Loyola University, Chicago*.

Some factors responsible for the varied perceptions of several persons (judges) of a single individual (subject) are explored and tested by these hypotheses: (a) The differences between judges in rating the subject are related to the differences in their ratings of themselves. (b) The judges' ratings of the subject resemble their own self-ratings rather than the subject's self-rating. (c) Each judge's rating of the subject resembles the other judges' ratings of the subject rather than the subject's self-rating. Results tend to verify hypotheses b and c, demonstrate a trend for a, and reveal an over-all perceptual pattern for the judges.

9:10. Patterns of self-perception and affective response in the area of interpersonal behavior. GLEN STICE, *Educational Testing Service*.

The way people perceive themselves as reacting in social situations and the affective responses they make to such situations were studied by a factor analysis of the responses of 277 high school and college students to 83 items selected from a 504-item inventory. The items were selected to mark the dimensions of "dominance," "neurasthenia," and "loneliness" as these have been described in the literature. A broad factor (combining reported self-assured, uninhibited, and effective behavior with an uneasy attitude in informal social situations) and several attitudinal factors, probably relevant to only some cultural groups, were found.

9:20. The ideal-other and factors affecting its relation to the ideal-self. SIDNEY ROSEN, *Marquette University*.

While much research has dealt with the ideal-self, its logical complement, the ideal-other, has escaped investigation. This study is concerned with demonstrating its independent status and with factors affecting its relation to the ideal-self. It was hypothesized that college males would, unlike females, defensively make their ideal work partner less intelligent than the ideal-self, that females would agree to less minimally acceptable warmth in a close companion, than males. 70 male and 80 female undergraduates drew trait profiles of ideal-others and -selves. Results support the hypotheses.

9:30. Adjustment, discrepancies in interpersonal perception, and therapeutic skill. OSCAR A. PARSONS, JOHN ALTROCCHI, AND FAYE SPRING, *Duke University*.

Interpersonal theories of behavior emphasize the relationship among psychiatric adjustment, accurate self-perception, and social adjustment. Therefore, it is predicted that discrepancy between self-description and others' description of self and disagreement in descriptions by the others will be related positively to maladjustment (MMPI) and negatively to rated therapeutic skillfulness. These predictions were tested in a group of 64 student nurses undergoing training in psychotherapeutically oriented, psychiatric nursing. The results partially support the predictions: the disagreement and discrepancy measures relate significantly to maladjustment, and the disagreement measure alone and a combination of all three measures relate to therapeutic skill.

**Division 12 and Society for Projective Techniques.**  
**Symposium: The Role of Stimulus Structure in Projective Techniques**

9:00-10:50. Hall of Mirrors, Netherland Hilton  
 EDWIN S. SHNEIDMAN, *VA Center, Los Angeles, California*, Chairman

Participants: KENNETH B. LITTLE, *National Institute of Mental Health*; BERNARD I. MURSTEIN, *University of Portland*; EDITH WEISSKOPF-JOLSON, *Purdue University*; AND IRA FRIEDMAN, *Cleveland Psychiatric Institute*.

Discussants: JEROME KAGAN, *Antioch College*; AND JOSEPH ZUBIN, *New York State Department of Mental Hygiene*.

**Division 16. Symposium: Working with Troubled Children in a Public School Setting**

9:00-10:50. Roof Garden, Sheraton-Gibson  
 ALBERT J. HARRIS, *Queens College*, Chairman

Participants:

STELLA M. COHN, *New York City Reading Clinics*; MARGARETTA FITE AND MARGARET M. MOSHER, *Bureau of Child Guidance, New York City*. How a joint clinical and instructional program functions within a school.

HELEN RODABAUGH AND MURRAY ABRAMSKY, *Bureau of Child Guidance, New York City*. A treatment clinic in the school.

LOUIS HAY, *Bureau of Child Guidance, New York City*. Guideposts for special classes and a track for disturbed children.

**Division 20. Research Papers**

9:00-11:50. Parlors 8 and 9, Sheraton-Gibson

JACK BOTWINICK, *National Institute of Mental Health*; AND JOSEPH H. BRITTON, *Pennsylvania State University*, Co-Chairmen

9:00. The effect of shock motivation on age difference in RT with regular and irregular preparatory intervals. JOSEPH F. BRINLEY, JOSEPH S. ROBBIN, AND JACK BOTWINICK, *National Institute of Mental Health*.

Age differences in the effect of shock motivation on simple RT were measured with a regular series of preparatory intervals and with 2 sets of preparatory intervals presented in irregular series. The results from 24 subjects aged 65-81 years and 27 subjects aged 19-31 years indicate that shock motivation reduced age differences significantly when intervals were presented in regular series ( $p < .01$ ), but did not significantly alter age differences with either of the two sets of irregular intervals. Increased motivation may reduce simple RT loss associated with age when conditions facilitate accurate anticipation of the time of responding.

9:10. Age differences in a series of prolonged eye-blink conditioning trials. HARRY W. BRAUN, RICHARD GEISELHART, LLOYD E. HOMME, AND JOSEPH NEWMAN, *University of Pittsburgh and VA Hospital, Pittsburgh, Pennsylvania*.

Previous research revealed that elderly subjects were apparently unable to acquire the conditioned eye-blink response when 80 conditioning trials were given in a single conditioning session. The present experiment was conducted to assess the effects of a 5-day series of 50 conditioning trials each. The results show that on Day 5, the elderly subjects show a significant level of conditioning, 38% CRs as compared to 89% CRs in the group of young adult males.

9:20. Perception of part-whole relations in middle and old age. PETER E. COMALLI, JR., HEINZ WERNER, AND SEYMOUR WAPNER, *Clark University*.

Old people, similar to young children, show greater susceptibility to the Muller-Lyer illusion and lesser susceptibility to the Titchener Circles illusion than do 20-45 year olds. These results are interpreted in terms of general developmental theory.

9:30. Card sorting tasks of perceptual matching, mental manipulation, and relearning in relation to age. JACK BOTWINICK, JOSEPH S. ROBBIN, AND JOSEPH F. BRINLEY, *National Institute of Mental Health*.

An older group (median age = 71 years,  $N = 27$ ) and a younger group (median age = 24 years,  $N = 30$ ) were compared in learning and achievement scores for card sorting performances when the tasks were varied according to: extent of perceptual matching or searching, number of stimulus aspects needed to be kept in mind and manipulated simultaneously,

and relearning requirements. The older group did relatively poorer with the task that involved the most mental manipulation and perceptual searching ( $p < .01$ ). Relearning rate and practice effects were similar for both age groups in all tasks ( $p > .05$ ).

- 10:00. A mathematical model of dark adaptation as a function of time and age. RICHARD G. DOMEY AND ROSS A. MCFARLAND, *Harvard School of Public Health*.

Statistical studies ordinarily indicate that age and dark adaptation thresholds are negatively correlated, but age and parameters purported to represent rate of dark adaptation are not correlated. Since thresholds and rate are physiological covariables, these contradictory statistical results could not be reconciled. Consequently, a mathematical model was derived from data obtained with the Hecht-Schlaer adaptometer from 240 subjects who ranged from 16 through 89 years. Both threshold and rate were found to be interdependent. The model appears to be a step toward a theory of dark adaptation as a function of age, and, therefore, universally applicable.

- 10:10. The performance of aged females on five non-language tests of intellectual functions. ARMAND W. LORANGER AND HENRYK MISIAK, *New York Hospital-Westchester Division and Fordham University*.

In old age the largest decline in intellectual functioning occurs on tests involving the comprehension of new ideas and the adoption of new work methods. This is a report of the performance of elderly subjects on five such tests: Digit Symbol, Porteus Maze, PMA Reasoning, Raven Progressive Matrices, and Wisconsin Card Sorting. The subjects were 50 female residents of homes for the aged, 74-80 years of age, with good visual acuity. Results are presented and compared with existing norms for various age groups. Practical and theoretical considerations in the employment of these tests with the aged are discussed.

- 10:20. Verbal achievements of aged persons. KLAUS F. RIEGEL, *National Institute of Mental Health*.

Five verbal tests have been developed and applied to two age groups: Synonyms, Autonyms, Selections, Classifications, Analogies. To derive testable hypotheses, an association model has been adapted. It was assumed that associations between linguistic-logically (*sprachlogisch*) related words, as those between the various test and response words, become strengthened by the experiences accumulated during life. The associations play a differentiative role for the solutions. Empirically it was found that the achievements of older persons decrease in the order of the tests men-

tioned. There were significant age, test, age  $\times$  test interaction, and within  $\times$  between person interaction effects.

- 10:30. A factorial analysis of perceptual and mental tests given to healthy elderly men. JAMES E. BIRREN, JACK BOTWINICK, ALFRED D. WEISS, AND DONALD F. MORRISON, *National Institute of Mental Health*.

32 tests were administered individually, requiring approximately 25 hours. Testing was distributed over two weeks. Tests included: simple auditory reaction time, Raven Progressive Matrices, WAIS, Wisconsin Card Sorting, speed of arithmetic operations, writing speed, verbal fluency, mirror drawing, visual judgment time, hearing loss, auditory click discrimination, binaural digit span, Stroop test of mental blocking and learning. The subjects were 47 noninstitutionalized white males 65 years of age. All were healthy judged by a comprehensive physical examination and laboratory tests. Measurements were intercorrelated, yielding a  $32 \times 32$  table of intercorrelations which was analyzed by Hotelling's principal component method and by a centroid factor analysis.

- 10:40. Factor analyses of the Hamburg-Wechsler Intelligence Test for four age groups. RUTH M. RIEGEL, *National Institute of Mental Health*.

The German standardization of the Wechsler-Bellevue Intelligence Test by Anne Hardesty for the age groups 15-54 years was extended up to an age of over 75 years as part of a multivariate study on aging conducted by Klaus Riegel. The data of the age groups 20-34, 35-49, 50-64, and 65-75+ years were factor analyzed. Hotelling's principal component method was used to provide determined solutions and thus best comparability between the age groups. In addition, an orthogonal rotation to simple structure was conducted for the age group 65-79 years. Comparison with Birren's data (1952) showed good congruence.

- 11:00. Formal characteristics of human figure drawings by institutionalized aged and by noninstitutionalized aged. MARTIN LAKIN, *Duke University*.

In order to evaluate the hypotheses of changes in self-image reflected in figure drawings as associated with aging per se or with perception of alteration in life status, the drawings of two groups of aged were compared. Area, height, and centeredness of figures were measured quantitatively and were compared for 32 institutionalized aged and 32 noninstitutionalized aged who were comparable with respect to other relevant factors. Drawings by the institutionalized aged were more constricted, shorter, and less ade-

quately centered. Age was not a significant factor. Change in perception of life status has a major effect upon alteration in self-image.

- 11:10. Evaluation of older adults by community members. JOSEPH H. BRITTON, *Pennsylvania State University*.

The problem of this investigation was twofold: methodologically, to devise a procedure for obtaining evaluations of social adjustment of older adults by members of the community; and, substantively, to validate measures of adjustment against a functional criterion. A sample of 25 older persons was drawn from older members of the community known well by 16 judges, who were selected from 31 probationary judges as knowing many older adults. Evaluations were made by means of a Q sort procedure on five variables selected as oblique measures of adjustment. The procedure is evaluated, and correlations with other measures of adjustment are presented.

- 11:20. Personality development in middle-aged men. DAVID L. GUTMANN, WILLIAM E. HENRY, AND BERNICE L. NEUGARTEN, *University of Chicago*.

This study is based on projective data drawn from a sample of 144 urban men in the age range 41-71. The subjects' TAT stories were analyzed and categorized in ways designed to highlight possible age-graded personality developments, especially around the issue of active vs. passive mastery. In terms of this issue, men in their forties were found to be avoiding emergent passive and succorant needs through vigorous combat with the environment, men in their fifties were found to be actively struggling with the question of self-assertion and achievement vs. passive disengagement, while men in the sixties seem to have solved this conflict through stressing abusive and deferent resolutions.

- 11:30. The views of middle-aged parents toward intergenerational relations within the family. BERNICE L. NEUGARTEN AND DAVID L. GUTMANN, *University of Chicago*.

This study is based upon projective data obtained from a sample of 120 urban middle-aged men and women drawn from upper-middle and working classes. Responses to a special TAT-type picture showing young and middle-aged adults in family interaction are analyzed with regard to: the nature of the issues which confront the family (the thematic content); the initiation, resolution, and outcomes of these issues; the extent of conflict and cooperation between generations; the locus of power and decision making; and the nature and intensity of affective bonds between generations. Age and sex differences in the data are

described, and special attention is given to the different images of family interaction that occur in upper-middle as compared to working class groups.

## Division 22. Research on Rehabilitation

9:00-10:50. Parlor 6, Sheraton-Gibson

WILLIAM KIR-STIMON, *Rehabilitation Institute of Chicago*, Chairman

- 9:00. The relationship between personality traits and acceptance of prosthesis. SAMUEL A. WEISS, *New York University*.

Six adult male amputees (ankle disarticulation, Syme operation) wearing conventional prostheses were individually fitted with a lighter weight plastic Canadian-Type Syme prosthesis designed to promote improvement in numerous prosthetic aspects. Tests assessing prosthetic acceptance and psychological functioning (security feelings, somatic preoccupation, control of anxiety, recall, masculinity-femininity, and occupational constriction) were administered before fitting of the experimental prosthesis, during an adjustment period, and at the conclusion of the study. The experimental prosthesis was preferred over the conventional by all subjects, although degree of acceptance differed. Consistent positive relationships were found between prosthetic acceptance and improvement in psychological functioning in subsequent evaluations.

- 9:15. Reactions to physical disability by the disabled and the nondisabled. JEROME SILLER, *New York University*.

This paper presents a clinical and theoretical analysis, from a psychoanalytic viewpoint, of dynamics underlying (a) reaction to personal disability and (b) negative attitudes of the nondisabled toward the disabled. The theoretical model utilizes the concept of narcissism and directs attention to "depth of narcissistic withdrawal" and to bases of object choice in the disabled. It is advanced that a continuity exists between premorbid personality structure and post-traumatic reactions and that the use of the concept of narcissism provides a bridge between the two.

- 9:30. A scale to measure attitude toward disabled persons. J. R. BLOCK, W. J. CAMPBELL, AND H. E. YUKER, *Human Resources Corporation and Hofstra College*.

A test of Attitudes Toward Disabled Persons (ATDP) was designed to measure the extent to which the subject perceives disabled persons in general as being "different from" nondisabled persons. With disabled persons it measures self-acceptance and

adjustment; with the nondisabled it measures prejudice toward the disabled. For the handicapped worker, the test seems to be related to absenteeism, attitude toward work, and quality of performance on the job. College students score significantly higher than disabled workers; and, among college students, those who have close personal contact with disabled persons score significantly higher than those without such contacts.

- 9:45. Tactual recognition of form in the sighted and the blind. ANNE G. EWART, FRANCES M. CARP, AND E. S. EWART, *Trinity University and San Antonio, Texas*.

This experiment was concerned with tactual form recognition in 30 blind and 30 sighted children, the age range in both groups being 8 to 16. The experimental task, a series of eight stimulus forms each accompanied by four choice forms, represented an adaptation of a test used by Worchel. Over-all, the results showed no differences in test performance attributable to condition, IQ, or age. There was, however, a significant condition  $\times$  IQ interaction, intelligent blind subjects performing better than less intelligent; whereas mean scores for high and low IQ sighted subjects were practically identical. The implications are discussed.

- 10:00. A critique of auditory projective techniques promulgated for the visually handicapped. DELL LEBOW AND ROSELYN SHERMAN BRUCE, *Child Guidance and Speech Correction Clinic, Jacksonville and Social Service Bureau, Richmond*.

The development of auditory projective techniques, all requiring recorded stimuli, for use with the blind is traced. The nature of the growth is regarded as dangerous and criticized. Specific suggestions for improvement range from a standard titling procedure to a fundamental research program. Much of the recommended experimentation on the dynamic meaning of sound stimuli can be justifiably conducted by means of associations to written words or sentences. It is also pointed out that diagnostic nuances may be overlooked by dependence on a TAT scoring system. Techniques developed to be different would seem to warrant original scoring procedures.

- 10:15. Congruence of attitudes between disabled patients and hospital staff as a function of degree of contact. JUDITH A. GOLDSTON AND CYNTHIA P. DEUTSCH, *New York University-Bellevue Medical Center*.

(No abstract received.)

#### Films.

- 9:00-11:50. Parlors A, B, and C, Netherland Hilton
- 9:00. Some Aspects of Mental Testing. F. L. Whaley and E. V. Piers
- 9:50. Stimuli Eliciting Sexual Behavior in Turkeys. M. Schein and E. B. Hale
- 10:20. Living in a Reversed World. T. Erismann and I. Kohler, *University of Innsbruck*
- 10:40. Warning in the Dark. T. Erismann and I. Kohler, *University of Innsbruck*
- 11:00. Behavior of Animals and Human Infants. R. D. Walk and E. J. Gibson

#### Division 7. Symposium: Achievement Motivation and Achievement Anxiety in Children

- 10:00-11:50. Rookwood Room, Sinton

WILLIAM MARTIN, *Purdue University*, Chairman

#### Participants:

- ALBERT CARON, *Harvard University*. The learning block as a cognitive plight.
- SHEILA FELD, *University of Michigan*. Need achievement, test anxiety, and achievement values in children, and maternal attitudes and behaviors toward independent accomplishment: A longitudinal study.
- BOYD McCANDLESS, *Iowa State University*. Anxiety, school learning, and social class.
- PAULINE S. SEARS, *Stanford University*. A look at measures of achievement motivation.

#### Division 8. Leadership

- 10:00-10:50. Parlors N and O, Netherland Hilton

THOMAS LODAHL, *Massachusetts Institute of Technology*, Chairman

- 10:00. The concept of ego-strength in leadership assessment. MARVIN SCHILLER AND NORMAN ABELES, *Michigan State University*.

This report is concerned with the development, reliability, and cross-validation of an ego-strength (ES) scale for the assessment of leadership. Ego-strength is perceived as a dynamic characteristic of personality which is optimally capable of productively analyzing and synthesizing both internal and external stimuli. An analysis of variance, based on the responses of three groups of college students, differing in leader-

ship ( $N = 109$ ), to the ES scale, was significant well beyond chance expectation ( $p < .01$ ). The scale's ability to differentiate between various levels of leadership performance suggests that the ego-strength variable is of importance as an individual personality factor, as well as in terms of interpersonal relations.

10:10. The relationship between leadership and personality attributes perceived by followers. CLARE CLIFFORD AND THOMAS S. COHN, *Wayne State University*.

Recent research has recast the trait approach to leadership in terms of personal attributes of the leader as perceived by the followers. The additional implication in some research is that the perceived attributes are consistently required rather than varying according to the situation. The results of this study supported the hypothesis that leadership is a function of the personal attributes of the leaders as perceived by the followers. However, leadership role requirements in terms of perceived attributes of the leader varied from situation to situation.

10:20. A study of leadership as a function of communication channels. RAYMOND D. HEDBERG, *Prudential Insurance Company of America*.

Increasing use is being made of communication nets as a vehicle for studying small group behavior and leadership. The present study sought to explore the effects of available communication channels on leadership behavior in three different communication nets. In two of these nets there was a natural leader who, by his strategic location in the net, provided competition for an assigned leader. The results demonstrated that accessibility to communication channels is a critical variable for effective leadership in small groups. These findings are interpreted as lending support to a "structural" theory of leadership behavior in small groups.

10:30. Group effectiveness and consistency of leadership. MARGARET W. PRYER, BERNARD M. BASS, AND AUSTIN W. FLINT, *State Colony and Training School, Pineville, Louisiana, Louisiana State University, and Esso Standard Oil Company*.

This study set out to test the hypothesis that initially effective groups change leaders less than initially ineffective groups. The data supported another hypothesis: any groups became or remained effective as long as they did not change leaders. In groups which gained in effectiveness, leadership consistencies of .70 and .33 were found. Among groups losing in effectiveness, consistency of leadership dropped to -.08 and .01.

## Division 8. Symposium: Language and Cognition

10:00-11:50. Parlors L and M, Netherland Hilton

ROGER BROWN, *Massachusetts Institute of Technology*, Chairman

### Participants:

J. B. CARROLL, *Harvard University Graduate School of Education*. Language and thought studied across languages: A report of the "Southwest Project."

E. S. GLENN, *Interpreting Branch, United States Department of State*. Logical models and languages, considered from the point of view of learning theory.

CAROLYN K. STAATS, *Arizona State University*. Meaning acquisition and communication.

R. BROWN, *Massachusetts Institute of Technology*. The language of power and solidarity.

Discussant: S. I. HAYAKAWA, *San Francisco State College*.

## Division 16. Symposium: The Role of Psychotherapy in the School

10:00-11:50. Parlors 4 and 5, Sheraton-Gibson

MICHAEL J. MATTIOLI, *State Education Department, Albany, New York*, Chairman

Participants: MARTIN JACOBS, *Lawrence Public Schools, New York*; PENELOPE P. POLLACZEK, *Mount Vernon Public Schools of Westchester County, New York*; ARTHUR COMBS, *University of Florida*; AND MARY L. BRANTLY, *Oakland City Schools, California*.

## Division 18. Contributed Papers I

10:00-10:50. Parlor 5, Sinton

A. DUDLEY ROBERTS, *VA Hospital, Lexington, Kentucky*, Chairman

10:00. A study of the relationship of attitudes, of psychiatric aides toward "criminally insane" patients, with other aide characteristics. JASWANT KHANNA, STEPHEN PRATT, AND GORDON GARDINER, *Larned State Hospital*.

Postulating attitudes as significant "treatment-field" determinants, a 75-item scale was designed to assess attitudes of psychiatric aides assigned to work with "criminally insane" patients. Areas relevant to CI treatment-field included attitudes toward: CI patients per se and differentially, mental illness, treatment, discipline and punishment, etc. Relationships were analyzed between such expressed attitudes and other significant aide characteristics: e.g., age, education, performance ratings, intelligence, "social service" orientation, selected personality variates, etc. The correlation matrix was factor analyzed, and descrip-

tive-predictive significance of findings is discussed in relation to relative importance of attitudes and attributes of aides working with CI patients.

- 10:15. Bread cast upon the waters: Psychology's responsibility to participate. LEWIS B. KLEBANOFF, *Massachusetts Department of Mental Health.*

This paper discusses the need for psychology to offer its counsel and aid to legislative deliberations. It points out that elected officials are required to act whether or not professional groups have completed their deliberations. The laudable aspirations and intentions of organized psychology are noted as well as the lamentable lack of influence these have upon contemporary history. It is suggested that what is needed is continuous, patient offering of our best knowledge, or even informed speculations, in areas where legislators are required to act whether or not they are fully informed. In the process, an image of psychology as a thoughtful, civic minded, and realistic profession will replace that of mystic eggheads; and, when matters of direct concern to psychology arise, our communication channels will already have been established along with a reservoir of good will.

- 10:30. Contributions of operations research to psychologists in public service. RICHARD M. GREENE, JR., *System Development Corporation.*

A review of the definitions of operations research reveals that in some ways psychologists have been utilizing similar techniques for some time to solve problems in diagnosis, therapy, hospital records analysis, and even large scale statistical diagnostic studies. A tentative working explanation of operations research is provided and a discussion of its role in operational problems is presented. In addition to activities in the areas of diagnosis, psychotherapy, and psychometrics, psychologists are breaking out of a stereotype allowing them to make meaningful and scientific contributions to systems planning and operations. Although best established in weapons systems, one may see ways in which state and other governments may use psychological skills, often called human factors, in administrative problems. The development and use of mathematical formulations of behavior models and of administrative or therapeutic system is discussed, and possible areas of further interest are explained. The use of gaming and simulation is discussed.

#### Division 8. Temperament and Affect

- 11:00-11:50. Parlors N and O, Netherland Hilton  
MICHAEL A. WALLACH, *Massachusetts Institute of Technology*, Chairman

- 11:00. Temporal co-variation of affective states in male and female subjects. ALDEN E. WESSMAN AND DAVID F. RICKS, *Harvard University*

A set of 16 self-rating affective scales was developed for investigation of characteristics and concomitants of emotional fluctuation. These 10-point Personal Feeling Scales describe various subjective states relative to Fullness of Life, Receptivity toward World, Personal Moral Judgment, Sociability, Love and Sex, Quality of Thought Processes, Irritability and Anger, Worry and Anxiety, Mood, etc. Two groups, 21 college women and 17 clinically assessed college men, furnished daily self-reports over a 6-week period of highest, average, and lowest felt on each scale and took tests (self and ideal Q sorts, Rosenzweig P-F, Cattell 16-PF) once when elated, once when depressed. Significant intra-individual changes with mood were found in self and ideal and in the nature and direction of punitive responses. Relative inter-individual standings on parameters of mood fluctuation (average level, amplitude, frequency) bore significant relationships to characteristics of self and ideal. Factor analysis of each person's records elucidated interrelationships of his major dimensions of affective fluctuation.

- 11:10. The differential reduction of aggressive responses as a function of interpolated activities. ROBERT H. HORNBERGER, *State University of Iowa.*

This experiment was designed to investigate the relative effectiveness of physical, fantasy, and intellectual activities in diminishing the number of aggressive responses presumed to result from experimental frustration or insult. A secondary interest was to explore the relationship between ethnocentrism and the experimentally aroused aggression. The major results were: The present findings fail to confirm previous research, and the obtained differences among the experimental groups seemed to be due to other characteristics of the tasks than their cathartic values. The insult groups were more hostile than the noninsult groups. Ethnocentrism was unrelated to the experimentally aroused aggression.

- 11:20. Impulsivity and other personality characteristics of cigarette smokers. DANIEL S. P. SCHUBERT, *University of Chicago.* (Sponsor, Donald W. Fiske)

Item analysis of the MMPI revealed 142 items differentiating ( $p < .05$ ) between cigarette smokers and nonsmokers in a group of 611 students. In two other samples significant differentiation was found consistent with the earlier results. Smokers were characterized by self-reports of thrill seeking, religious

liberalness, masculine interests, and deceptive tactics. Smokers were also higher on the impulsivity scale developed by Sanford et al. A tentative interpretation of these results is made in terms of stimulus hunger.

- 11:30. The objective measurement of motivation in children. ARTHUR B. SWENEY, *University of Illinois*.

This study was designed to illuminate motivation in children by examining the interrelationships among methods of registering interest in movies and religion on 33 test devices. 89 sixth grade public school subjects were given a six-hour battery of individual and group tests. Factor analyses for each attitude yielded oblique structures, each of which contained seven replicated motivational components. Five of these matched the five stable components found by Cattell and Baggailey with adults, the only other motivational study of this kind. These are descriptively related to the id, ego, super ego, repressed complexes, and physiological expression of motivation. The two new components were tentatively identified as "impulsivity" and "persistence."

## Division 12. Psychotherapy II

11:00-12:50. Hall of Mirrors, Netherland Hilton

HERMAN FEIFEL, *VA Mental Hygiene Clinic, Los Angeles*, Chairman

- 11:00. Character defense preference and group therapy interaction. CARL N. ZIMET, *Yale University*.

The relationship of character structure to the quality of group interaction is a focal one. This study was formulated to investigate the relationship of defense preference to the quality of participation in group therapy. Hypotheses based on psychoanalytic theory revolved around the expectation that, depending on the specific defense mechanism(s) used, significantly more positive or negative interactions would occur. Hypotheses were tested in a group, meeting for 19 hours and consisting of six members who were evaluated through tests and interviews and subsequently rated in terms of their preferred defense mechanism. Deniers show significantly more positive than negative interaction. Other findings are reported.

- 11:15. Clinical evaluation in group psychotherapy. HAROLD J. FINE AND CARL N. ZIMET, *Veterans Administration, Bridgeport, Connecticut and Yale University*.

In a study measuring personality changes in group psychotherapy, a method was devised to test the effectiveness of leaders' clinical evaluations and predictions of the quality of interaction of the members. These

evaluations were correlated with a reliable and valid interaction instrument. The results indicate that the clinical evaluation by the leaders remains internally consistent, whereas the observers' ratings based upon a reliable and validated scale eventually move in the direction of the clinical evaluation.

- 11:30. Stimulus equivalents of the psychotherapist. LEE B. SECHREST, *Northwestern University*.

The perceptions of 12 psychotherapists held by 35 of their patients were studied for clues concerning the psychotherapeutic relationship. The findings point to the probability that the psychotherapist will be reacted to in terms of the rather general stereotype of professional men. There is the likelihood that the therapist will be seen as being like those persons whom he does in fact resemble. It is shown that the perceptions the patient has of his therapist are related to other variables in the psychotherapy such as the type of treatment the patient received and outcome of therapy.

- 11:45. Personality changes in the initial phase of psychoanalytically oriented psychotherapy. THOMAS HOLLON AND EDWIN S. ZOLIK, *Mental Health Clinic, Rockford, Illinois, and Marquette University*.

Psychotherapy is conceptualized as effecting a reorganization of the ego, thereby facilitating more efficient handling of stress and reducing subjective discomfort. Components of ego functioning considered were level of self-esteem and number of neurotic symptoms. Results sustained the hypothesis of greater ego reorganization only in the patient group after four months of therapy. Additionally, patients, rated by the therapist as markedly improved, had a significant increase in self-esteem, measured by Q sorts, and significant decrease in neurotic symptoms, measured by the Mooney Problem Check List. Comparisons with Rogerian results are reported, and minimal contribution of projective tests discussed.

- 12:00. The relation between success as a therapist and differentiation of self from others. JOHN SCHOPLER, *University of North Carolina*.

Despite the accord given to the idea that the therapist's personality is a significant variable in determining the therapeutic interaction, and presumably the outcome of such interactions, the research findings have been scanty. This study was conducted with the belief that an important task for the therapist is making discriminations about the interpersonal mechanisms of his patients and, specifically, that the more successful therapists are better able to differentiate the interpersonal characteristics of others from those

they possess themselves. 15 therapists described themselves and 5 other therapists on Leary's Interpersonal Check List. Differentiation of affiliative characteristics showed a significant, positive relation to degree of success, defined by the therapist's judgment of success and by the number of interviews attended by the patients, while no such relation existed for differentiation of dominance characteristics. The positive relation did not appear to be a statistical artifact of the distribution of self-description scores. An interpretation of the discrepant findings is given.

**12:15. The therapist as a variable affecting success in group sociotherapy.** ERNEST G. POSER, *Verdun Protestant Hospital*.

The view has frequently been expressed that the therapist's personality may be one of the most important variables affecting the outcome of a psychotherapeutic relationship. The present study seeks to provide an objective test of this hypothesis in a situation where the level of therapeutic training (i.e., no training) was held constant. Undergraduate female students were selected to provide a sociotherapeutic relationship for groups of chronic schizophrenic patients throughout a five-month period. All patients were tested before and after the sociotherapy program to provide an objective index of therapeutic success. The ten therapists were also extensively tested, and the five most successful were compared with the five least successful in terms of their test behavioral characteristics.

**12:30. Frequency of psychotherapy sessions and therapists' judgments of their appropriateness.** DOUGLAS M. MCNAIR AND MAURICE LORR, *Veterans Benefits Office, Washington, D. C.*

Outpatients on three randomly assigned psychotherapy schedules at seven clinics were assessed before and after four months. Therapists rated appropriateness of treatment schedule for each patient initially and after four months. The hypothesis that patients on suitable schedules would improve more than patients on unsuitable schedules was disconfirmed on 11 criteria. Therapists' initial suitability ratings related significantly to patient characteristics which varied with clinic location. Therapists' recommendations for more or less frequent treatment correlated with therapists' reactions to patients, such as liking, but not with independently assessed patient variables. Shifts from unsuitable to suitable ratings related to patient test changes. Such changes were not corroborated by therapists.

**Division 12. Symposium: Clinical Skills Revisited**

11:00-12:50. Pavillon Caprice, Netherland Hilton

RICHARD H. DANA, *University of Nevada*, Chairman

**Participants:**

PAUL E. MEEHL, *University of Minnesota*. What can the clinician do well?

ALAN P. TOWBIN, *VA Hospital, West Haven, Connecticut*. When are cookbooks useful?

FRANKLYN N. ARNHOF, *Department of Mental Hygiene, New York*. Some aspects of clinical judgment.

PAUL J. HOFFMAN, *University of Oregon*. The prediction of clinical prediction.

RICHARD H. DANA, *University of Nevada*. Implications of revisitation: Methodology reformulated.

**Division 16. Symposium: Issues in the Training of Psychologists for the Schools**

11:00-12:50. Roof Garden, Sheraton-Gibson

MARIE SKODAK, *Dearborn Public Schools, Michigan*, Chairman

**Participants:**

VICTOR RAIMY, *University of Colorado*. Levels and patterns of training.

WILLIAM A. HUNT, *Northwestern University*. Training for research in the schools.

PAUL BOWMAN, *University of Chicago*. Training for preventive mental health functions.

RAYMOND C. NORRIS, *George Peabody College for Teachers*. Practicum and internship experiences.

DAVID SALTEN, *Long Beach Schools, New York*. As the school executive sees it.

**Division 17 and Society for the Scientific Study of Religion. Symposium: The Role of the Concept of Sin in Psychotherapy**

11:00-12:50. Ballroom, Sinton

WALTER HOUSTON CLARK, *Hartford Seminary Foundation*, Chairman

**Participants:**

O. HOBART MOWRER, *University of Illinois*. Some constructive features of the concept of sin.

ALBERT ELLIS, *New York City*. There is no room for the concept of sin in psychotherapy.

CHARLES A. CURRAN, *Loyola University, Chicago*. Comments by a religious psychologist.

EDWARD JOSEPH SHOBEN, JR., *Teachers College, Columbia University*. How many theories brought out in the symposium be tested by research?

**Division 18 and Association of Correctional Psychologists. Contributed Papers II**

11:00-11:50. Parlor 5, Sinton

SHELDON B. PEIZER, *United States Naval Hospital, Memphis, Tennessee*, Chairman

- 11:00. The stability of a VA mental hygiene clinic caseload. LAWRENCE S. ROGERS, *VA Hospital, Denver, Colorado*.

Actuarial data were obtained on all admissions to a VA mental hygiene clinic for the fiscal years of 1948 ( $N = 382$ ), 1955 ( $N = 264$ ), and 1958 ( $N = 234$ ). The results indicated very little change in such factors as education, race, place of residence, marital status, and religion. However, the patients were somewhat older, many more are self-referrals, and the percentage of psychotic patients has more than tripled. The length of treatment has, nevertheless, remained about the same. The implications of these findings are discussed.

- 11:15. Rorschach study of personality changes incident to incarceration. SHELDON B. PEIZER, *United States Naval Hospital, Memphis, Tennessee*.

(No abstract received)

- 11:30. Study of treatment of juvenile offenders in Michigan. E. L. V. SHELLEY, *Michigan Department of Corrections, Lansing*.

(No abstract received)

#### Division 22. Symposium: Attitude of Parents and Peers Toward the Disabled Child, as a Factor in Rehabilitation

11:00-12:50. Parlor 6, Sheraton-Gibson

SIDNEY FISHMAN, *New York University*, Chairman

Participants: MORTON A. SEIDENFELD, *National Foundation, New York*; CYNTHIA P. DEUTSCH, *New York University-Bellevue Medical Center*; AND ALBERT HASTORF, *Dartmouth College*.

### FRIDAY AFTERNOON, SEPTEMBER 4

#### Division 8. Perception of Persons

12:00-12:50. Parlors L and M, Netherland Hilton

DAVID SHAPIRO, *Harvard University Medical School*, Chairman

- 12:00. Reanalysis of "impression of personality." JULIUS WISNER, *University of Pennsylvania*

Asch's interpretation of his data on impressions of personality as representing a unitary, wholistic result, underivable from a knowledge of the connotations of the individual elements and their interactions in the information input does not yield predictions with respect to new stimulus- and response-lists. It was

shown that the differences in ratings of a check list between two groups hearing "warm" and "cold," respectively, in the context of "intelligent-skillful-industrious-determined-practical-cautious," can be predicted from a knowledge of the specific intercorrelations, independently obtained, between each trait to be rated and "warm-cold." Similarly large differences between groups were obtained by varying "unintelligent-intelligent" and "blunt-polite" when the check list was composed appropriately.

- 12:10. Reflection of major personality characteristics in gestures and body movements. GEORGE F. MAHL, BURTON DANET, AND NEA NORTON, *Yale University*.

The gestures and body movements of patients during initial psychiatric interviews reflect major personality characteristics, as revealed by the clinical diagnosis, descriptive symptomatology, and/or character structure noted in the clinical records. It is possible to predict many of the latter from the former. Some gestures have the same "meaning" as the concurrent verbal content, some seem to have contrary meanings at times later confirmed, some seem unrelated but anticipate subsequent verbal statements. Some gestural behavior is highly idiosyncratic, while some is sex related.

- 12:20. Superiority of early history over current history as basis for judgments about self-impressions. AUSTIN E. GRIGG, *University of Texas*.

Autobiographical accounts by two subjects were divided into an account of early childhood and an account of current history. By means of a latin square  $2 \times 2$  analysis of variance design, one group of 30 judges was supplied with the early history of Subject A and current history of Subject B; 30 different judges were supplied with early history of Subject B and current history of Subject A. Both groups of judges postdicted more accurately the subjects' current self-impressions when using early history data than with current history.

- 12:30. Interpersonal perceptions of repressors and sensitizers. JOHN ALTROCCHI, *Duke University*.

The hypothesis that repressors assume similarity between self and others and sensitizers assume difference between self and others, supported by Gordon in an interpersonal prediction situation involving newly acquainted people, is extended to an interpersonal perception situation involving well-acquainted student nurses. The hypothesis is supported, suggesting that these response sets are operative in continuing interpersonal relations. The response sets also extend to assuming similarity or difference between two others.

The response sets are less apparent after a period of training emphasizing insight into interpersonal relationships, suggesting that such response sets can be modified in nonpathological subjects.

**APA Board of Professional Affairs, American Board for Psychological Services, and American Board of Examiners in Professional Psychology. Workshop on Professional Affairs: Collaboration between State Associations, American Board for Psychological Services, and American Board of Examiners in Professional Psychology.**

1:00-2:50. Parlor E, Netherland Hilton

KARL F. HEISER, *Glendale, Ohio*; AND FILLMORE H. SANFORD, *University of Texas*, Co-Chairmen

**Divisions 7 and 9. Symposium: The Development of Standards, Values, and Moral Behavior in American Children**

1:00-3:50. Rookwood Room, Sinton

WESLEY ALLINSMITH, *Harvard University*, Chairman

Participants: JUSTIN M. ARONFRED, *University of Pennsylvania*; URIE BRONFENBRENNER, *Cornell University*; ELEANOR E. MACCOBY, *Stanford University*; AND JOHN WHITING, *Harvard University*.  
Discussant: HERBERT C. KELMAN, *Harvard University*.

**Division 8. Decision and Conflict**

1:00-1:50. Roof Garden, Sheraton-Gibson

ROBERT ZAJONC, *University of Michigan*, Chairman

1:00. Certainty of judgment and the evaluation of risk. MICHAEL A. WALLACH AND NATHAN KOGAN, *Harvard University and Age Center of New England, Inc.*

An investigation was made concerning the relationship between judgmental certainty and conceptions of the nature and desirability of risk taking. Using the semantic differential method, individual differences were assessed in the evaluation of four concepts relevant to risk taking, one concept concerning the self, and five nonrelevant concepts. These differences were correlated with an index of judgmental certainty. Level of judgmental certainty was found to vary with the way an individual evaluates risk taking and himself, but not the irrelevant concepts, providing an empirical warrant for conceiving of this aspect of cognitive functioning as influenced by attitudes toward risk.

1:10. "Critical periods" in seeking and accepting information. N. MACCOBY, A. K. ROMNEY, J. S. ADAMS, AND E. E. MACCOBY, *Stanford University*.

In order to assess the relative effects of a communication on persons for whom communication content varies in relevance for an imminent decision, three field experiments were conducted. The results indicate that under "forced" exposure (Experiment I) to a communication, people in critical periods (those for whom the contents relate to an imminent decision) are no more easily changed (possibly less so) than people for whom the communication is less relevant. However, given the opportunity to select freely (Experiment II), people in critical periods are more likely to seek information and to expose themselves to a communication when it is casually available (Experiment III).

1:20. A multivariate study of voluntary commitment concerning a future event. EDMUND S. HOWE, *University of Maryland School of Medicine*.

Miller's conflict model is applied to future-oriented commitment behavior, the stimulus-similarity axis being identified with the future temporal dimension. It is deduced that if the subject presently commits himself to make, at a preferred future time, a voluntary response which will arouse both approach and avoidance tendencies, then his preferred delay will be a positive function of the strength of avoidance. A multivariate design involving 90 volunteers analyzed reward demanded, shock strength selected, preferred delay, and independent measures of *n*-avoid, and *n*-cash. Only *n*-avoid, showed a significant (positive) correlation with preferred delay. The main deduction was thus confirmed.

1:30. A conflict interpretation of perceptual vigilance and perceptual defense. ARCHER L. MICHAEL, *Milwaukee County Hospital for Mental Diseases*.

This study used a conflict interpretation of the perceptual dynamics of the relative lowering and raising of visual selection thresholds. It was hypothesized that reward effects an approach response (increased selection of rewarded stimuli) at both sub- and supra-threshold levels. Reward-and-punishment to the same symbol effects an approach response at subthreshold levels, an avoidance response (decreased selection) at suprathreshold levels. The reward-and-punishment experience creates conflict (increased response latency) at the recognition threshold. The results support the use of a conflict model to conceptualize the phenomena of perceptual vigilance and perceptual defense.

**Division 8. Subliminal Stimulation**

1:00-1:50. Parlors L and M, Netherland Hilton

MARGARET TRESSELT, *New York University*,  
Chairman1:00. The effects of an indiscriminated stimulus on imagery. FRANKLIN H. GOLDBERG, HARRY FISS, MORRIS EAGLE, AND GEORGE S. KLEIN, *New York University*.

Can an indiscriminable stimulus nonetheless affect conscious thought? The present study investigates the effects upon imagery of stimulus exposures shown to be too brief to elicit the phenomenon of "discrimination without awareness" (i.e., neither correct discriminations nor even partial perceptions were possible). In 10 out of the 13 subjects, images following a subliminally exposed double profile contained significantly more of the double profile's qualities (assessed on a prior developed checklist) than did those following a clock stimulus. Thus, the indiscriminability of a stimulus does not preclude an activating effect on thought and influence upon spontaneous imagery.

1:10. Importation above and below awareness. DONALD P. SPENCE AND I. H. PAUL, *New York University*.

Recent studies of the recall of extended and connected verbal material have isolated a cognitive style variable: importation. Importers regularly elaborate their reproductions, adding new material so as to enhance continuity and sense. They tend also to fuse and assimilate disparate experiences. To test whether this tendency also extends beyond the limits of awareness, making importers more sensitive to subliminal stimuli, a masking situation was designed to measure the incorporation of subliminal stimuli into impressions of supraliminal stimuli. The findings show that importers are significantly more prone to assimilate information presented below awareness.

1:20. The influence of subliminal stimulation upon choice behavior. NORMAN L. CORAH AND WALTER COHEN, *University of Buffalo*.

The investigation attempted to study the influence of subliminal stimulation upon choice behavior when the subliminal stimulus was intrinsically related to the response. The subjects had to select one of three geometric figures under an ESP set. The subliminal stimulus was an X projected into one of these figures, and the required response was an X. The results indicate that the subliminal stimulus was ineffective in altering the subjects' responses. Even when the subjects are aware of a task-relevant stimulus, only a

limited number of them appear to be influenced, whereas the majority of the subjects tend to ignore it.

1:30. Some personality correlates of responsiveness to unperceived cues. MORRIS EAGLE, *New York University*.

In a previous study by the writer, it was found that unperceived stimuli, depicting aggressive and benevolent actions, differentially affected impressions of a contiguously presented, consciously perceived figure, as measured by the subject's drawings and trait list ratings of the figure. Subjects were ranked on their responsiveness to the subliminal stimuli. The present paper presents some personality correlates of such responsiveness. From Q sort ratings, self-ratings, and other data, it was found that responsiveness to the subliminal stimuli was related to the following personality factors: interpersonal cooperativeness, thinking flexibility, passive-receptivity, identification with aggressor vs. aggressed, and characteristic attention deployment.

**Division 12. Assessment of Clinical Conditions II**

1:00-2:50. Hall of Mirrors, Netherland Hilton

DAVID WECHSLER, *Bellevue Psychiatric Hospital*,  
*New York*, Chairman1:00. Measures of over-controlled and under-controlled behavior: Their implication for assessment of psychotherapy. CHARLES Y. NAKAMURA, *University of California, Los Angeles*.

Inventory scales that measure neurotic over-control and neurotic under-control were assessed to confirm their purported orthogonality and their relation to other measures of maladjustment such as the Taylor Manifest Anxiety Scale (TAS). Data were obtained on college students, applicants to a psychiatric service, and industrial management personnel. The scale intercorrelations over these groups are stable and consistent with the hypothesis that they measure two undifferentiated components in the TAS: suppressed anxiety that is manifested in over-controlled or inhibited behavior as well as manifest anxiety (under-controlled behavior). These scales appear useful for assessment of change in psychotherapy.

1:15. The Spiral Aftereffect Test as a predictor of normal and abnormal cortical function in children. ROBERT E. SCHAEFFER AND THEODORE H. BLAU, *Byron Harless and Associates, Tampa, Florida*.

The hypothesis developed was that approximately 10% of children referred to outpatient psychological clinics suffer from intracranial pathology which is not clinically observable on neurologic examination;

psychological measurements can discriminate children of essentially normal cortical function from those children having disrupted cortical function. Out of 420 children examined, approximately 46 were unable to see the aftereffect on the SAET. Those 46 children were designated as the experimental group. A selected group of 20 "predicted normals" were matched with the "predicted abnormal" group. The predicted normal and the predicted abnormal groups were referred for electroencephalographic evaluation (criteria). The SAET predicted with significant accuracy the normal and abnormal electroencephalographic records of the subjects. The SAET may be a useful, clinical screening device for determining the need for neurologic and electroencephalographic examination.

- 1:30. Prediction of accessibility to treatment of emotionally disturbed children. MELVIN E. ALLERHAND, ERWIN S. WEISS, AND NORMAN A. POLANSKY, *Western Reserve University*.

A group of 45 boys treated at a children's institution for at least 15 months were rated on their "Freedom to Communicate Feelings (FTCF)." Clinical intuitions were used to select a priori 47 factors from the Rorschach and the Wechsler Intelligence Scale for Children for testing as possible predictors of FTCF. 12 factors were able to differentiate the high FTCF group ( $N = 27$ ) from the low FTCF group ( $N = 18$ ) at the 10% level of significance or less using chi square tests. Seven factors significant at the 5% level or less were employed as a prediction index on the 45 cases resulting in six predictive errors.

- 1:45. A psychotic reaction profile. MAURICE LORR, JAMES P. O'CONNOR, AND JOHN W. STAFFORD, *Catholic University*.

To develop a behavior inventory for use by psychiatric aides and nurses on the basis of a set of hypothesized psychotic reaction dimensions, 1,400 male and female functional psychotic patients in 47 hospitals were administered an inventory of 172 behavior statements constructed to measure 10 primary syndromes and 4 higher order syndromes. Item covariance matrices were analyzed separately by sex by the homogeneous keying technique. Four independent and highly reliable subscales labelled Withdrawal, Thinking Disorganization, Paranoid Belligerence, and Agitated Depression were evolved. These correspond closely to the higher order reaction patterns postulated.

- 2:00. The use of the Steinman Human Figure Drawing Scale in defining levels of psychopathology. STANLEY R. GRAHAM AND ANGELO A. VITANZA, *Long Island Consultation Center*.

108 adult patients at Long Island Consultation Center were given human figure drawing tests at intake or shortly thereafter. Case conference established diagnosis in the following broad categories: primary character disorder, neurotic, and psychotic. Steinman HFD Scale evaluations separated character disorders from neurotics at .05 level of confidence. Both neurotics and character disorders were separated from psychotics at .01 level of confidence.

- 2:15. MMPI codes in various diagnostic categories. WILLIAM SEEMAN AND SOPHIE STATHOPOULOS, *Kansas University School of Medicine*.

Two general hypotheses were tested: MMPI profile codes are distributed within each diagnostic category in a nonrandom manner; MMPI profile codes for specified categories are differently distributed. To test these two general hypotheses, about 900 profiles published in the *Clinical Atlas* were selected. The results of the analysis support the first hypothesis strongly. The chi squares computed relevant to the second hypothesis were mostly significant, but several were not so.

- 2:30. A factorial approach to integrating clinical, psychometric, and sociobiographical data related to personality disorders. ALEXANDER W. ASTIN, *USPHS Hospital, Lexington, Kentucky*.

An attempt was made to develop empirical classes of personality disorders based on relevant clinical, psychometric, and sociobiographical data. All available data from these three sources were reduced to 159 dichotomous items and collected on 35 patients with personality disorder diagnoses. Patients were intercorrelated in terms of these items. An obverse factor analysis revealed the following interpretable factors: sociopathy, emotional overcontrol, social amenability, immaturity, schizoid hypersensitivity, and dependency. In general the official subclasses of personality disorders were not reproduced. Unique combinations of the three kinds of data on some factors suggested several hypotheses regarding etiology of these disorders.

## Division 12. Symposium: Existential Psychology and Psychotherapy

1:00-2:50. Pavillon Caprice, Netherland Hilton

VICTOR RAIMY, *University of Colorado*, Chairman

### Participants:

ABRAHAM MASLOW, *Brandeis University*. Psychological implications of identity.

HERMAN FEIFEL, *VA Mental Hygiene Clinic, Los Angeles*. Death: Relevant variable in psychology.

ROLLO MAY, *William Alanson White Institute, New York*. Existential bases in psychotherapy.

Discussants: CARL R. ROGERS, *University of Wisconsin*; AND GORDON W. ALLPORT, *Harvard University*.

**Division 16. Symposium: Achievement and Personality Characteristics of Children of Low, Average, and High Intelligence**

1:00-2:50. Parlors 4 and 5, Sheraton-Gibson

T. ERNEST NEWLAND, *University of Illinois*,  
Chairman

Participants:

JOHN FELDHOUSE, *University of Wisconsin*. Methodology and results of assessing pupil retention of socially useful arithmetic learnings.

RUDOLF MATHIAS, *Wisconsin Diagnostic Center, Madison*. Methodology and results of personality appraisal with Rorschach, TAT, and figure drawing.

THOMAS RINGNESS, *University of Wisconsin*. Methodology and results of assessing self concepts.

RALPH TINDALL, *Milwaukee Public Schools*. Methodology and results of personality ratings derived from selected projective tests.

Discussant: HERBERT KLAUSMEIER, *University of Wisconsin*.

**Divisions 17 and 22. Symposium: Predictions of Outcomes of Rehabilitation**

1:00-2:50. Ballroom, Sinton

WILLIAM GELLMAN, *Jewish Vocational Service of Chicago*, Chairman

Participants:

JAMES F. GARRETT, *United States Office of Vocational Rehabilitation*. Predictive studies in rehabilitation research.

LEONARD DILLER, *Institute of Physical Medicine and Rehabilitation, New York*. Prognostic strategy in rehabilitation.

NATHAN M. GLASER, *Jewish Vocational Service of Chicago*. Scale of employability for handicapped persons.

DOROTHY LITWIN, *Institute for Crippled and Disabled, New York*. Predicting employment of the cerebral palsied.

LOUIS E. MASTERMAN, *Community Studies, Inc., Kansas City*. Sociopsychological predictors in rehabilitation.

FRANKLIN C. SHONTZ, *Highland View Hospital, Cleveland* (with EUGENE B. NADLER, S. L. FINK, AND CHARLES HALLENBECK). Establishing follow-up criteria in rehabilitation.

**Division 18. Symposium: Problems in Staffing and Utilization of Automatic Data Processing**

1:00-2:50. Parlors N and O, Netherland Hilton

ALBERT P. MASLOW, *United States Civil Service Commission, Washington, D. C.*, Chairman

Participants: EDWARD ELY, *Wright-Patterson Air Base, Dayton, Ohio*; DAVID FUTRANSKY, *Census Bureau, Washington, D. C.*; AND ERNEST PRIMOFF, *Civil Service Commission, Washington, D. C.*

**Division 20. Personality Tests and Aging**

1:00-1:50. Parlors 8 and 9, Sheraton-Gibson

ROBERT KLEEMEIER, *Washington University*,  
Chairman

1:00. A dimension of personality change with aging.  
BERNARD S. AARONSON, *New Jersey State Hospital at Trenton*.

Application of an aging index composed of the scales *Hs*, *D*, *Pd*, *Pt*, and *Sc*, previously shown to be related to aging, to the MMPI profiles of 66 cases, aged 16 to 65, yielded high correlations with chronological age, except in a mixed schizophrenic-sociopathic sample. Aging seems to be an important factor in ongoing personality change during adulthood. The index seems to measure a transition from concern with impulse control to concern with physical and mental health. A concept of psychological age is proposed as a unifying concept against which to view ongoing maturational changes in personality with aging.

1:10. Hypochondriasis and developmental criteria of Rorschach performance in an aged population.  
CARL EISDORFER, *Duke University*.

A developmental analysis of the Rorschach protocols of 30 hypochondriacal subjects (aged 60 and above) and controls matched for age, sex, race, and Full Scale IQ indicates that hypochondriacal tendencies are associated with reduced ability to organize the environment on an abstract cognitive basis (Functional Integration scores differ at  $p < .05$ ). While these subjects are able to communicate effectively with little decline in verbal skills, they show a trend toward more vague and primitive thinking.

1:20. Structured personality testing in the aged: An MMPI study of the gerontic population.  
WENDELL M. SWENSON, *Gustavus Adolphus College*.

MMPI data on 95 nonhospitalized gerontic subjects were analyzed. The median profile tended to be a neurotic one with an absence of evidence of psychotic

or behavior disorder tendencies. There was a conspicuous absence of the psychopathic deviate and hypomania scales in the high point codes. The group revealed more "test abnormality" than populations of younger normal subjects. Sex differences existed in the relative frequencies of the social introversion and depression scale as codable high points. The composite profile of the females in this group was qualitatively different from one of 66 female geriatric patients admitted to a state mental hospital.

1:30. Rigidity in the aged. ETHEL ANN MICHAEL, *Milwaukee County Hospital for Mental Diseases*.

Popular opinion holds that rigidity increases with age. This study investigated certain aspects of rigidity in the aged. When an aged (mean age, 75.6) and a middle-aged group (mean age, 45.6), both groups superior in intelligence and socioeconomic status, were required to alter habitual ideational responses acquired in the process of acculturation, the aged showed significantly greater rigidity than the middle-aged. Further, age was a more important variable in degree of rigidity than was level of intellectual functioning. These findings were not related to signs of encroaching senility, nor to attitudes toward the self and environment, in the aged group.

#### Films.

1:00-4:50. Parlors A, B, and C, Netherland Hilton

1:00. Solution of Bent Wire Detour Problems by Children, Monkeys, and Raccoons. R. T. Davis

1:25. A Filmed Projective Test for Children: Rock-A-Bye Baby. M. Haworth

2:05. Brain Stimulation in the Monkey: Techniques and Results. J. M. R. Delgado, Yale University

2:30. Upright Vision Through Inverting Spectacles. T. Erismann and I. Kohler, University of Innsbruck

2:50. Diagnosis of Childhood Schizophrenia. New York University

3:30. Jung Speaks of Freud. R. I. Evans

#### Divisions 7 and 20. Symposium: Theories of Development in Adulthood

2:00-3:50. Parlors 8 and 9, Sheraton-Gibson

NANCY BAYLEY, *National Institute of Mental Health*,  
Chairman

#### Participants:

JAMES E. BIRREN, *National Institute of Mental Health*. A theory of mental development through the life span.

K. WARNER SCHAE, *University of Nebraska*. A field-theory approach to age changes in cognitive behavior.

ELAINE CUMMING, *University of Chicago*. Disengagement: A theory of aging.

RAYMOND G. KUHLEN, *Syracuse University*. A developmental psychology of adult life.

#### Division 8. Group Process.

2:00-2:50. Roof Garden, Sheraton-Gibson

JAY JACKSON, *University of Kansas*, Chairman

2:00. Assimilation of a knowledgeable newcomer under conditions of group success and failure. ROBERT C. ZILLER AND RICHARD BEHRINGER, *University of Delaware*.

It was proposed that a new member may be perceived as either a resource or a constriction depending upon the needs of the group. Thus, it was hypothesized that a newcomer is accepted less readily by a successful group than a failure group. The experiment was conducted in a laboratory, note passing setting and involved a newcomer who was in fact a confederate with the correct answer to the critical task and a method of arriving at that answer. Failure groups, in contrast to success groups, were persuaded by the newcomer to a larger extent and rated the newcomer higher than the regular group members. Moreover, the newcomer was rated lower and received fewer notes in general than the regular group members.

2:10. Sex composition of the group as a factor in the modification of individual judgment of high and low authoritarian persons. MARK SILVAN, *Brooklyn College*.

This study is concerned with the ways in which group composition operates in the modification of individual judgments. Our focus is the behavior of individuals when placed in opposition to an all male group, a mixed sex group, and an all female group—particularly as their behavior is related to their standing on the California F Scale. The principle underlying the prediction of the decision making of high F subjects is that the authoritarian personality will be more responsive to the "pressure-power" aspects of the judgment situation and relatively less responsive to the "stimulus" aspects of the objective situation. This tendency may be viewed as a specific instance of the authoritarian personality to surrender personal initiative to conventionally defined authority.

- 2:20. Relations among psychometric score patterns, social characteristics, and effectiveness of small industrial work groups. THOMAS M. LODAHL, AND LYMAN W. PORTER, *Massachusetts Institute of Technology and University of California*.

The hypothesis in this study was that the distribution or pattern of scores in a group is related to its performance and that this relationship varies with the social characteristics of the group. Data were obtained from members of 55 industrial work groups on Ghiselli's Self-Description Inventory (SDI) and a sociometric questionnaire. For the total sample, the heterogeneity of group scores and the leader's percentile position in the group on the supervisory abilities scale were negatively related to group productivity and to cohesiveness and the leader's popularity. The latter were in turn positively related to productivity. The mediating function of social characteristics is shown by the fact that, in groups with low cohesiveness, the relation between group heterogeneity on the supervisory scale and productivity is positive and, in highly cohesive groups, it is strongly negative. Likewise, the relation between the leader's percentile position in the group on the supervisory scale and group productivity is positive in groups in which the leader is relatively less popular with his men, and negative in those in which he is more popular.

- 2:30. Membership's internalization of task values and the popularity of nominated task leaders. HERMAN TURK, *Duke University*. (Sponsor, Oscar A. Parsons)

Some investigators report high positive association between nominated task leader status and personal popularity; others report low association. Secondary analysis of data collected from five groups of student psychiatric nurses identified a condition under which significant positive association obtained. The following hypothesis, derived from the work of Newcomb and others, was supported: the more widespread the group membership's internalization of task activities as values (rate of identification as psychiatric nurse), the more often is status as task leader (sociometric nomination as psychiatric head nurse) associated with popularity (choices received as roommate):

#### Division 8. Discussion Group: Research Methods in Person Perception

- 2:00-2:50. Parlors L and M, Netherland Hilton  
PAUL F. SECORD, *University of Nevada*, Chairman

#### Division 8. Verbal Behavior

- 3:00-3:50. Roof Garden, Sheraton-Gibson

ERIC H. LENNEBERG, *Massachusetts Institute of Technology*, Chairman

- 3:00. Comparisons between French and English word association norms. MARK R. ROSENZWEIG, *University of California*.

The Kent-Rosanoff test was translated into French and administered to 288 students in Paris. Comparisons were made with recent English norms. Primary responses in the two languages tend to be equivalent in meaning and correlated in frequency, but the French responses are significantly lower in frequency. The standard curve of distribution (Zipf) for French associations has a slope of  $-1.0$ , while English studies have all found slopes steeper than the  $-1.0$  predicted by theory. Although French has a smaller vocabulary than English, French students gave more different responses than American students. Several hypotheses are considered to explain this difference.

- 3:10. Nonsemantic identifiers of a grammatical category. DOUGLAS PORTER, *Harvard University*.

This study is concerned with nonsemantic correlates of form class which provide cues to grammatical class membership. After a training series of English sentences, subjects were asked to identify the verb in nonsense sentences with positional, function word, and verb ending cues. Results revealed few differences between child and adult identifications except for greater dependence upon position by children. Agreement in choice of the "verb" varied with the strength and number of cues present. Although subjects did not verbalize the relationship between cues and grammatical class, the cues increased the probability that a given word was identified as the verb.

- 3:20. Three levels of defensive verbal behavior: An invoked and spontaneous thought mechanism of negation related to the defense mechanism of simple inhibition. WARREN T. HILL, *Boston University*.

According to psychoanalytic theory, the thought mechanism of negation allows a repressed or inhibited idea to enter consciousness to be used for purposes of defense, expression, or reality testing, provided that the idea is consciously disbelieved. 48 male students learned 12 nonsense syllables, half of which were later associated with several electric shocks. Negation and affirmation response sets were then invoked to elicit the previously learned syllables in response to an autokinetic (stationary) light. The results suggested

that, with persons who use general defensive thinking, an invoked negation set provides an avenue for ordinarily inhibited painful material to enter consciousness.

- 3:30. Gesture and pantomime in aphasia. H. GOODGLASS AND E. KAPLAN, *VA Hospital, Boston, Massachusetts.*

Capacity for gestural communication is usually deficient in aphasic patients. The principal question at issue in this study was whether this deficiency is related to the severity of the language defect rather than to the intellectual deficit following brain damage. The experiment consisted of the administration of a test of gesture and pantomime to 20 aphasics for whom measures of intelligence and language performance were available. Gestural proficiency was more closely related to language defect than to intellectual efficiency or to age. This finding suggests that a specific common process underlies both verbal and gestural communication.

#### Divisions 8 and 12. Symposium: Psychological Aspects of Drug Addiction

3:00-4:50. Parlors N and O, Netherland Hilton

DAVID P. AUSUBEL, *University of Illinois*, Chairman

Participants:

A. W. ASTIN, *USPHS Hospital, Lexington, Kentucky*. Relapse to drugs viewed as an approach-avoidance conflict.

J. J. MONROE, *USPHS Hospital, Lexington, Kentucky*. The identification process in hospitalized drug addicts.

M. COOPER, *Juvenile Court of the District of Columbia*. Differences in self-perception among drug addicts, alcoholics, and nonaddict criminals.

#### Division 12. Personality Assessment

3:00-4:50. Parlors L and M, Netherland Hilton

GORDON DERNER, *Adelphi College*, Chairman

- 3:00. A new approach to insight: A preliminary report. ALEXANDER TOLOR AND MARVIN REZNICKOFF, *Institute of Living, Hartford, Connecticut.*

This study proposes a novel method for the measurement of insight. The test requires the individual to interpret a number of hypothetical situations in which common defense mechanisms can easily mislead the subject in his interpretations. This circumvents the previously necessary but difficult assessment of the subject's "true" personality as compared with his self-

evaluations. Validation studies were conducted on 68 patients using as criteria psychiatric and psychological judgments of insight. Insight ratings were independent of diagnoses and were significantly related to test scores. Patients were significantly less insightful than two control groups. The effect of training and other variables on test scores was investigated.

- 3:15. A definition and analysis of the "ego ideal" based upon differential response sets to the MMPI. IRMA LEE ZIMMERMAN AND EUGENE E. GLOYE, *Associated Psychological Centers of Southern California, Los Angeles, California, and Whittier College.*

Through the analysis of an "ideal" and a "real" self, measured by readministration of the MMPI, norms were established for the "ego ideal" in typical college and high school populations and compared with the ego ideals of selected clinical groups. The ego ideal tends to be similar in all subgroups, even though the self-estimates roughly parallel the extent of admitted pathology (e.g., psychotherapy candidates). Correlations of the specific test scales, and an item analysis of discrepancy scores, allow for an evaluation of the components of the ego ideal as measured through this medium.

- 3:30. Depth in personality measurement. JANE LOEVINGER, *Jewish Hospital, St. Louis.*

Psychological measurement and assessment sometimes hit too superficial a level, where traits may be subject to rapid and extreme change, or too deep a level, where people tend to be alike. Differential prediction must be based on measurement at an intermediate depth, traits which differ among people but change only gradually. This is the level of ego structure. Since objective personality tests tap ego-syntonic traits, they are probably best for assessing at this level. Projective tests tend to elicit ego-alien trends. Relation of these problems to uses of tests in psychiatry is explored.

- 3:45. The relationship between medical and psychiatric symptomatology in medical and psychiatric patients. RUTH G. MATARAZZO, JOSEPH D. MATARAZZO, AND GEORGE SASLOW, *University of Oregon Medical School.*

Using four groups of medical and psychiatric patients, it was found that, in agreement with the Hinkle and Wolf hypothesis, illness can be regarded as a reaction of the total organism to stress: that there is a very high correlation between number of medical and psychiatric symptoms in all groups. Furthermore, number of medical symptoms does not differentiate the medical groups from psychiatric males. However,

female psychiatric patients differ from all other categories of patients in tending to somaticize markedly more. They do not, however, have more psychiatric symptoms than male psychiatric patients, although both tend to have more than medical patients.

4:00. Personal constructs and cognitive styles.  
JAMES G. KELLY, *University of Texas*.

Study was designed to assess the validity of G. A. Kelly's Personal Construct Theory by specifying correlates of two dimensions of the theory and testing hypotheses concerning these correlates. The two dimensions were permeability-impermeability and positionality-preemptivity. Seven tasks, including concept attainment tasks as well as object and theme sorting tasks, were employed to test predictions about the performance of college students. One hypothesis each for the permeability dimension and positionality dimension was confirmed. The present status of the validity of the theory is discussed.

4:15. An experimental construct validation of Baron's *Es* Scale. MAURICE KORMAN, *University of Texas Southwestern Medical School*.

Because the *Es* scale was validated against a predictive criterion of successful outcome in psychotherapy, it has been suggested that it measures "ego-strength," a presumably latent trait often obscured by the vividness of psychopathology. This study is concerned with the construct underlying the *Es* scale. The performance of a psychiatric inpatient population on a choice discrimination task was used to test the congruence of this construct with Miller and Dollard's partial explication of ego-strength in terms of the capacity for appropriate discrimination and conflict resolution.

4:30. One way of life in relation to psychological health. DENIS O'DONOVAN, CHARLES MORRIS, AND BERNICE EIDUSON, *University of Florida and Hacker Foundation for Psychiatric Research and Education*.

Relationships between "ways of life" and different expressions of psychological health and illness are currently being studied in research based on Charles Morris' Varieties of Human Value. In this pilot study, Way 3, sympathetic concern for others, is used to differentiate between: a control group and 50 psychiatric outpatients; controls and the spouses or best friends of these patients; those having intense marital problems and other married patients; less versus more severely disturbed patients; impotent, shy, anxious patients versus those acting out aggressively and/or sexually; toward versus against and away (Horney) groups of patients; and socialized versus egocentric (Osgood) groups of patients and spouses.

**Division 12. Symposium: Family Oriented Diagnosis and Psychotherapy**

3:00-4:50. Pavillon Caprice, Netherland Hilton

HAROLD A. GOOLISHIAN, *University of Texas*,  
Chairman

Participants:

SEYMOUR FISHER, *Baylor University College of Medicine*. The three generation transmission of ethnic and value behavior.

CARL HEREFORD, *Austin Community Guidance Center*. The measurement and significance of intrafamily attitudes.

JOHN BELL, *United States Public Health Service*. Theory and techniques of family oriented therapy.

ROBERT MACGREGOR, *University of Texas*. An experimental approach to brief family oriented psychotherapy.

CHARLES FULWEILER, *Guidance Clinic of Alameda County Probation Department*. Family centered psychotherapy and research.

RICHARD BELL, *National Institute of Mental Health*. The impact of children on parental relations.

Discussants: DORIS TWITCHELL ALLEN, *University of Cincinnati*; E. G. JACO, *Western Reserve University*; AND E. C. MACDONALD, *University of Texas*.

**Division 16 Committee on the Intellectually Gifted. Open Meeting**

3:00-3:50. Parlors 4 and 5, Sheraton-Gibson

HARRIET O'SHEA, *Purdue University*, Chairman

**Divisions 16 and 22. Symposium: Developing Employability and Placeability of the Mentally Retarded**

3:00-4:50. Parlor 7, Sheraton-Gibson

HAROLD R. PHELPS, *Illinois State Normal University*,  
Chairman

Participants:

RICHARD O. PETERSON, *American Institute for Research, Pittsburgh, Pennsylvania*. The role of the parent.

MARVIN BURACK, *Bureau of Child Study, Chicago*. The role of the public schools.

MAX DUBROW, *AHRC Training Center and Workshop, New York*. The role of the training workshop.

BARBARA BEERMAN, *United Vocational and Employment Service, Pittsburgh, Pennsylvania*. The role of the placement counselor.

GEORGE M. HILL, *George M. Hill Associates, Ohio*. The role of the employer.

**Division 17 Committee on Divisional Functions.  
Group Discussion: The Professional Functions of the Division of Counseling Psychology**

3:00-4:50. Ballroom, Sinton

RALPH F. BIRDIE, *University of Minnesota*, Chairman

Brief presentation of topics of current concern to the Division of Counseling Psychology, with discussion by divisional members present.

**Division 8. Invited Address**

4:00-4:50. Roof Garden, Sheraton-Gibson

GORDON W. ALLPORT, *Harvard University*. The Open System in Personality Theory.

**Division 16 Subcommittee on Promoting Research on the Gifted. Research in Progress on the Underachieving Gifted Child**

4:00-4:50. Parlors 4 and 5, Sheraton-Gibson

CECILE B. FINLEY, *Alexandria Board of Education, Virginia*, Chairman

**FRIDAY EVENING, SEPTEMBER 4**

**APA Committee on Relations Between Psychology and Education. Open Meeting**

7:00-8:50. Ballroom, Sinton

T. ERNEST NEWLAND, *University of Illinois*, Chairman

**Division 18. Symposium: The Psychologist and Mental Health Consultation**

8:00-9:50. Rookwood Room, Sinton

JERRY W. CARTER, JR., *National Institute of Mental Health*, Chairman

**Participants:**

J. B. MARGOLIN, *National Institute of Mental Health*. Psychological factors in case consultation.

G. SOLOYANIS, *Pennsylvania Department of Public Welfare*. Psychological factors in case consultation.

A. J. BINDMAN, *Massachusetts Department of Mental Health*. Training in mental health consultation.

Discussants: J. M. MCKEE, *Alabama Department of Health*; AND M. W. MCCULLOUGH, *Ohio Division of Mental Hygiene*.

**Division 20. "Imagineering" Session on the Forthcoming White House Conference on Aging**

9:00-9:50. Parlors 8 and 9, Sheraton-Gibson

ROBERT J. HAVIGHURST AND CLARK TIBBITTS, Leaders

What should go into the background papers for the Section on Social, Psychological, and Social Welfare Research of the White House Conference?

**SATURDAY MORNING, SEPTEMBER 5**

**Division 8. Personal Similarity and Friendship**

9:00-9:50. Sheraton Room, Sheraton-Gibson

SUSAN ERVIN, *University of California*, Chairman

9:00. Personality similarity and friendship. CARROLL E. IZARD, *Vanderbilt University*.

Hypotheses were: mutual friends have similar personality profiles; individuals are more like their friends on some personality characteristics than on others. Analysis of variance of the personality (Edwards PPS) scores of 30 friend pairs and 30 randomly paired nonfriends showed that friends were significantly more alike than nonfriends. Significant similarity between randomly paired subjects was thought to be evidence for a sociocultural personality determinant. A follow-up study which showed no significant similarity between subjects in 30 Negro-white pairs was interpreted as supporting this notion. Intraclass correlation for friends were significant for three PPS variables, supporting the second hypothesis.

9:10. Effect of similarity of personalities on interpersonal attraction. HOWARD ROSENFELD AND JAY JACKSON, *University of Michigan and University of Kansas*.

The effect of similarity and divergence between the personality traits of interacting individuals upon their attraction to each other was investigated in a field setting. Friendship choices, and similarity scores on security, sociability, and ascendance, were obtained for all pairs of 36 female employees of a utility company. It was found that there was a greater frequency of friendship choices between individuals who were more alike on any given trait and between those who had a greater number of traits in common. The greater attraction between similar than between comple-

mentary or opposite persons is discussed as to its implications for theories of "structural balance."

- 9:20. Race, sex, and assumed similarity. ALBERT J. LOTT AND JOHN ROSELL, *University of Kentucky*. (Sponsor, M. M. White)

The degree to which assumed similarity with strangers is dependent on cues of race and sex was investigated, in an attempt to explore the bases on which judgments of similarity may be made in interracial situations. Negro and white high school seniors of both sexes responded to personality items and also predicted the responses made by "target" persons differing in race and sex. No consistent influence of either race or sex was revealed by an analysis of the assumed similarity scores. The results suggest that responses to cues such as race and sex may not be as stereotyped as other data have led us to expect.

- 9:30. Affective style and group behavior. DAVID SHAPIRO, EUGENE A. COGAN, AND GILBERT LEVIN, *Harvard Medical School*.

Members of a training group were classified as pairs on the basis of similarity on a pregroup measure of affective style. Independent ratings of behavior in the group showed that, for 8 out of 9 pairs, one member was an active group oriented participant (successful), the other (unsuccessful) over the course of 48 meetings. Two separate but compatible interpretations are: members with the same affective style compete to fill the same job in a group; dyadic bonds develop on the basis of affective similarity and are incompatible with the functioning of the group as a whole. Supplementary data are discussed.

#### Division 8. Symposium: The TAT Sequence Analysis in the Prediction of Success and Failure

- 9:00-10:50. Roof Garden, Sheraton-Gibson

J. A. GASSON, *Spring Hill College*, Chairman

##### Participants:

- MAGDA B. ARNOLD, *Loyola University*. The TAT sequence analysis: Rationale and scoring.  
L. A. McCANDLISH, *Catholic University of Puerto Rico*. TAT prediction of school success and failure.  
MARY INNOCENTIA, *Mount Mary College*. TAT prediction of good and poor teachers.  
F. PETRAUSKAS, *United States Naval Training Center, Great Lakes, Illinois*. A TAT and picture-frustration study of naval offenders and non-offenders.

#### Divisions 9 and 15. Symposium: Intercultural Contact and the Image of America at Home and Abroad

- 9:00-11:50. Ballroom, Sinton

GEORGE V. COELHO, *National Institute of Mental Health*, Chairman

##### Participants:

- LOTTE BAILYN, *Harvard University*. The effects of a year's experience in America on the self-image of Scandinavians: Report of research in progress.  
JOHN BENNETT, *Ohio State University*. Intercultural education and social change: Case studies of innovation in Japanese social structure.  
HOWARD PERLMUTTER, *Menninger Foundation*. Psychodynamic factors in intercultural contact: Some considerations for social action and education.  
CLAIRE SELTZ, *New York University*. Situational factors affecting personal interaction between foreign students and Americans.  
ÅKE BJERSTEDT, *University of Lund*. Informational and noninformational determinants of nationality stereotypes.

Discussants: DAVID A. HAMBURG, *National Institute of Mental Health*; SAMUEL P. HAYES, JR., *Foundation for Research on Human Behavior*; AND STUART W. COOK, *New York University*.

#### Division 12. Symposium: Current Research Methods: I. Q Methodology

- 9:00-10:50. Pavillon Caprice, Netherland Hilton

WILLIAM SCHOFIELD, *University of Minnesota*, Chairman

##### Participants:

- E. E. CURETON, *University of Tennessee*. The place of Q technique in the realm of correlational analysis.  
J. R. WITTENBORN, *Rutgers University*. Contributions and current status of Q methodology.  
JANE LOEVINGER, *St. Louis Jewish Hospital*. Critique of Q methodology.

#### Division 12 and Society for Projective Techniques. Symposium: The Prediction of Overt Behavior Through the Use of Projective Techniques

- 9:00-10:50. Parlors L and M, Netherland Hilton

ARTHUR C. CARR, *New York Psychiatric Institute*, Chairman

##### Participants:

- WILLIAM E. HENRY, *University of Chicago*. The TAT.  
BERTRAM R. FORER, *VA Hospital, Los Angeles*. Sentence completion tests.

MAX HUTT, *University of Michigan*. Graphomotor techniques (Bender-Gestalt Test and Draw-a-Person Test).

ZYGMUNT A. PIOTROWSKI, *Jefferson Medical College*. Rorschach test.

Discussant: EVELYN HOOKER, *University of California, Los Angeles*.

### Division 15. Pupil Characteristics

9:00-9:50. Parlors 4 and 5, Sheraton-Gibson

HOWARD B. LYMAN, *University of Cincinnati*,  
Chairman

9:00. Personality differences between Negro and white junior high school pupils. JOHN PIERCE-JONES, EDWIN HINDSMAN, AND EARL E. JENNINGS, *University of Texas*.

In order to test the hypothesis that white (Anglo and Latin American) and Negro adolescents, similar in levels of cognitive functioning, differ in certain factorially derived personality characteristics, mean scores obtained on each of Cattell's Junior Personality Quiz factors by matched samples of white (84 Anglos, 84 Latins) and Negro ( $N=84$ ) seventh graders were compared by  $t$  test. Significant (.05 level) ethnic and/or racial differences were found for 5 of 12 personality factors: will control-casualness, cyclothymia-schizothymia, socialized morale-dislike education, conformity-eccentricity, surgency-desurgency. Some differences appear to be related to social status rather than to race or ethnicity.

9:10. An investigation of "creativity" among school children. JACKSON B. REID AND F. J. KING, *University of Texas*.

The differential performances on 63 intellectual, personality-attitudinal, perceptual-motor, and Guilford "creativity" tests of seventh graders perceived as "creative" or "noncreative" by their peers were investigated. Some 26 of the measures differentiated significantly. In general, it was found that scores on the Guilford battery clearly discriminated between the two groups, but that conventional intellectual measures discriminated equally well. However, personality-attitudinal measures, previously reported to identify creative adults, failed to function similarly with children. Feasibility of analogous criteria of creativity in adults and children and the validity of considering intellectual and Guilford measures as mutually independent factors are questioned.

9:20. A comprehensive comparison of noninstitutionalized and institutionalized retarded children. LESLIE F. MALPASS AND SYLVIA MARK, *Southern Illinois University*.

While many specific types of behavior representative of noninstitutionalized and institutionalized retardates have been reported, very few studies have comprehensively compared such groups on a variety of measures. The present study studied groups of children, similar in age and IQ, from special education classes and from a state institution. Motor development, personality characteristics including self-reports of fears, ratings of social behaviors, ability to reason by analogy, and health status were variables measured. Significant differences in favor of special class retardates were found on all measures. Implications of the study in terms of special education for retarded children will be discussed.

9:30. Relationships between the anxiety and attitudes toward self and others of adolescents differing in intelligence. BEEMAN N. PHILLIPS, *University of Texas*.

On the basis of the theoretical formulations of anxiety by Sarason, Spence, and others, it was hypothesized that increased anxiety produces increased self-dissatisfaction in subjects with high intelligence and increased other-dissatisfaction in subjects with low intelligence. Instruments from which data were obtained on 709 seventh grade subjects included the McCandless Anxiety Scale, the Cooperative Youth Survey, the California Test of Mental Maturity, and the Brown-Holtzman Survey of Study Habits and Attitudes. The hypothesis was only partially confirmed, and the results for boys and girls and school related attitudes were inexplicable with the frame of reference of the study.

### Division 15. Symposium: Characteristics of Disabled Readers

9:00-10:50. Parlor 7, Sheraton-Gibson

ALBERT J. KINGSTON, JR., *University of Georgia*,  
Chairman

#### Participants:

PATRICIA M. CARRIGAN, *University of Michigan*. Broader implications of a chemical theory of reading disability.

ALBERT J. HARRIS, *Queens College*. Visual and perceptual characteristics of the disabled reader.

EMERY BLIESMER, *University of Virginia*. Language capabilities of disabled readers.

JACK A. HOLMES, *University of California*. Personality characteristics of the disabled reader.

IRA AARON, *University of Georgia*. Characteristics of disabled readers in elementary school.

ARTHUR S. McDONALD, *Marquette University*. Characteristics of disabled readers at the high school and college level.

**Division 17. Contributed Papers I**

9:00-9:50. Parlors N and O, Netherland Hilton

FRANK M. FLETCHER, JR., *Ohio State University*,  
Chairman

9:00. Realism and consistency in early adolescent aspirations and expectations. MARTIN HAMBURGER, *New York University*.

Cognitive capacities in early adolescence, especially potential for life planning, were assumed to be considerably greater than widely attributed unrealism of this developmental stage. As hypothesized, vocational-educational aspirations (wishes) and expectations were both significantly related to realism criteria (intelligence and socioeconomic status) and conformed to projected occupational trends. Other plans were related neither to vocational-educational plans nor to criterion variables. While mobility strivings were evident, reluctance to leave current status, even in fantasy, showed potency of reality. Capacity for realism is deemed blunted by anticipation of prolonged dependency and diminished self-testing opportunities, resulting in symptomatic unrealism.

9:10. Delinquency and interpersonal behavior: A function of communication. WILLIAM HARRY SHARP, *Catholic University of America*.

Three groups of juvenile delinquents (home incorrigibles, home truants, and thieves) and their mother-figures were used as subjects in an attempt to ascertain if the degree of communication varied according to the delinquent act. Communication was judged to be greatest when the individuals involved accurately perceived each other's self-perceptions. Results indicate that such a variance was evident. Perceptual accuracy and ambiguity, as measured by the Interpersonal Check List, permit a dynamic interpretation of the mother-son relationship and suggest procedures and aims for treatment.

9:20. The factor analysis of twenty-four counselor trainees in terms of their self-perceptions. ROYAL B. EMBREE and RAYMOND C. KENNEY, *University of Texas*.

This investigation was undertaken in order to study the patterns of self-perception which characterize graduate students who are preparing to be counselors. A list of 48 adjectives was sorted to describe self on five consecutive Mondays by 24 subjects. Composite self sorts were intercorrelated to produce a 24 x 24 matrix. Factor analysis and rotation resulted in one general factor and four secondary factors. All but two subjects were in the general factor—reflecting a socially acceptable, counselor stereotype. Other factors included objective-analytical counselors, anxious de-

fensive-supportive counselors, permissive counselors with moderate anxiety, and objective-permissive counselors with low anxiety.

9:30. The peer group interview as a selective device for guidance trainees. PHYLLIS C. WILSON, *Queens College*.

As a supplement to scholarship ratings, professional references, and an individual interview, the author and associates have, for the past five years, used a peer group interview situation as a phase of the screening of candidates for matriculation in a graduate scholarship training program in guidance. This paper reports the evolution of this work sample technique and the reliability of ratings for six observers in 1957 (and for four observers in 1958) on the empathy and influence of the candidates as tallied from observable behavior with their peers. Overall reliabilities are .89 and .94.

**Psi Chi. Symposium: The Place of Psi Chi in the Profession of Psychology**

9:00-10:50. Rookwood Room, Sinton

MAX MEENES, *Howard University*, Chairman

Participants: H. W. ANDERSEN, *Memphis State College*; F. S. HAMILTON, *North Texas State College*; A. Y. MARTIN, *New Mexico Highlands University*; S. ROSS, *University of Maryland*; AND D. M. RUMBAUGH, *San Diego State College*.

**Films.**

9:00-11:50. Parlors A, B, and C, Netherland Hilton

9:00. Adjutant General's Office Proficiency Test (Demonstration Reel). The Instructional Film Research Program

9:25. TAT (Demonstration Reel). The Instructional Film Research Program

9:50. The Loop Sling, Sighting and Aiming A, Sighting and Aiming B, and the Platform Concept. The Instructional Film Research Program

10:20. Teaching the Russian Language. The Instructional Film Research Program

**Divisions 5, 15, 16, and 17. Symposium: Implications of the National Defense Education Act for Psychologists**

10:00-11:50. Hall of Mirrors, Netherland Hilton

RALPH F. BIRDIE, *University of Minnesota*, Chairman

## Participants:

LAWRENCE G. DERTHICK, *United States Commissioner of Education*. Psychologists and the NDEA.

WILLIS E. DUGAN, *University of Minnesota*. Opportunities for training.

ALEXANDER G. WESMAN, *Psychological Corporation, New York*. Opportunities and responsibilities in test development and test use.

## Division 8. Anxiety

10:00-10:50. Sheraton Room, Sheraton-Gibson

HAROLD B. PEPINSKY, *Ohio State University*,  
Chairman

10:00. Relationship of measures of anxiety and experimental instructions to word association test performance: Further findings. IRWIN G. SARASON, *University of Washington*.

In a word association experiment, subjects were divided into high and low groups on the basis of both test and general anxiety measures. The subjects were also divided on the basis of instructions given prior to word association test performance. Neutral instructions and instructions structuring the word association test as an intelligence test were used. Using commonality scores as measures, test anxiety significantly interacted with instructions. High scorers on the Test Anxiety Scale showed lower commonality scores under the intelligence condition than did low scorers. Under the neutral condition this was not the case. General anxiety was unrelated to the subject's performance.

10:10. Manifest anxiety level and perceptual disturbances during arena isolation. DONALD W. ORMISTON, *Wright Air Development Center*.

It has been found that perceptual deprivation can lead to perceptual disturbances. It was hypothesized that social isolation is a special form of perceptual deprivation which can produce similar disturbances though the subject is not otherwise deprived. 22 male college students, 11 high and 11 low in manifest anxiety, were isolated in an arena at night after watching an athletic contest. Time perception, changes in apparent movement thresholds, false perceptions, and emotional reactions were observed. Changes in apparent movement thresholds of control subjects were measured under conditions of normal stimulation. More perceptual disturbances were found among the high anxiety, experimental subjects.

10:20. Rigidity and anxiety in a relatively simple motor response situation. IRA S. COHEN, *University of Buffalo*.

Relationships between rigidity and other personality variables seem to be dependent upon the task used to define rigidity and the situational variables which facilitate its manifestation. The present study explores the relationship between manifest anxiety and rigidity, as reflected in certain aspects of the acquisition of a key-press response. High anxiety subjects differed significantly from low anxiety subjects on two rigidity measures and on acquisition scores. No differences were found in an "extinction" series. The nature of the testing situation makes this study relevant, also, to recent reports on the use of operant conditioning techniques in deviant (psychiatric) groups.

10:30. Changes in parental attitudes as a function of anxiety and authoritarianism. EDWIN S. ZOLIK AND EUGENE H. WELSAND, *Marquette University*.

Attitudinal changes are facilitated not only by communication of relevant material but also by the interplay of personality variables. Two hypotheses were tested: changes in parental attitudes are induced by a course in child psychology; differences in amount of change are associated with degrees of authoritarianism and anxiety in the subjects. Results confirmed both hypotheses. High authoritarian-high anxious subjects, determined by the California F and Taylor Anxiety Scales respectively, showed more extensive attitudinal changes on the PARI factors ( $p < .05$ ) than high authoritarian-low anxious and low authoritarian-low anxious college females. Intercorrelations among variables contributed to interpretations and are discussed.

## Division 15. Characteristics of Educational Personnel

10:00-10:50. Parlors 4 and 5, Sheraton-Gibson

CARTER V. GOOD, *University of Cincinnati*, Chairman

10:00. Situational tests in school administrator evaluation. WALTER R. BORG AND J. ARTHUR SILVESTER, *Utah State University*.

The situational test shows theoretical promise as a measure of administrator ability. It permits direct measurement of behavior, has high face validity, and avoids the atomistic approach. In an exploratory study, six situational tests were developed from human relations problems encountered by school principals. 30 principals were rated in six behavior areas in each situation. Total scores and behavior area scores were correlated with four criteria of principal effectiveness. 15 of the 48 correlations between test scores and criterion scores were significant. Results indicate that the situational test can be developed into a valid measure of school administrator performance.

- 10:10. Some concomitants of inventory-estimated emotional maturity of experienced teachers. DAVID G. RYANS, *University of Texas*.

Good mental health usually is assumed to be a requisite of satisfactory teaching performance. Seeking clues about teacher characteristics and conditions which accompany good mental health, data from a large sample of elementary and secondary teachers were analyzed with attention to mean emotional maturity score (estimated from responses to direct inquiry and correlates-type inventory materials) when teachers were classified in various ways. As groups, teachers who were under 30 years of age, were males, were married, expressed permissive attitudes toward pupils and their classes, had their teacher education in a large university, were presently teaching in a community of high cultural level, were presently teaching in a Western section of the United States, and were warm and understanding toward their pupils attained significantly above average mean emotional maturity scores. Additional concomitants of emotional maturity were noted when elementary and secondary teacher data were analyzed separately.

- 10:20. Personality differences among arts and science students, education students, and experienced teachers. HENRY L. ADAMS, DON F. BLOOD, AND HERBERT C. TAYLOR, JR., *Western Washington College of Education*.

The Edwards Personal Preference Schedule was administered during 1958 to 300 experienced teachers and college students in education and sociology-anthropology courses. An analysis of variance of the scores of male and female arts and science students, education students, and experienced teachers revealed significant differences among the three groups. While the men differed significantly only on order, there were highly significant differences for women on deference, affiliation, succorance, endurance, and heterosexuality along with significant differences on nurturance and aggression. In general, it appears that, for women, teachers are more docile than education students who are more docile than arts and science students.

- 10:30. The relation between selected attributes of teachers and their educational values. GEORGE W. GOETHALS AND W. CODY WILSON, *Harvard University*.

Data from a questionnaire administered to a total of 280 teachers in three school systems were used to test the hypothesis that differences in educational values are related to differences in teachers' background experiences that may be summarized by certain social attributes such as extent of urban background, type of college curriculum, religion, amount

of teaching experience, sex, and father's occupational level. Teaching level, elementary or secondary, was held constant in the study. The hypothesis was confirmed. The first four of these attributes had the most pervasive relation to educational values; and the latter two, a more limited relation.

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#### APA Board of Professional Affairs. Workshop in Professional Affairs: Relations between Psychology and Psychiatry at the State Level

11:00-12:50. Pavillon Caprice, Netherland Hilton

JOHN G. DARLEY, *University of Minnesota*, Chairman

#### Division 8. Community Studies

11:00-11:50. Sheraton Room, Sheraton-Gibson

ROGER G. BARKER, *University of Kansas*, Chairman

- 11:00. Community dynamics: A contribution to experimental social science and social change. LEONARD GOODWIN, *Earlham College*. (Sponsor, William W. Biddle)

The thesis of this paper is that vital social scientific knowledge can be gained only as some scientists actively cooperate with citizens who are struggling with social problems. This thesis is supported by the exploration of several questions and hypotheses in terms of initial data gained from community projects with which community dynamics scientists have been associated. One project is in the mountains of Eastern Kentucky where socioeconomic problems are involved. The second project is in a large midwestern city where problems involve interracial living and urban change.

- 11:10. Identity of attitude and demographic dimensions that distinguish social areas. ROBERT C. TRYON, *University of California, Berkeley*.

Three stable demographic dimensions distinguish social areas of the metropolis: socioeconomic independence, family life, assimilation. Are these social areas attitudinally distinctive? The 1954 San Francisco precinct votes on 31 issues are cluster analyzed. Three clusters are discovered: political statism vs. individualism, taxation tolerance, ethnic-religious. When the six demographic-attitude complexes are cluster analyzed together, only three dimensions still emerge: socioeconomic-political, family-taxation, assimilation-ethnic. Detailed studies of social areas confirm this basic tridimensionality over 15 years. Groom-bride studies also prove that contrasting social areas are genetically isolated biotypes.

- 11:20. A community-wide survey of attempted and committed suicides. EDWIN S. SHNEIDMAN AND NORMAN L. FARBEROW, *VA Center, Los Angeles, California.*

Data are for Los Angeles County, calendar year 1957. For committed suicides, all suicide cases processed by the County Coroner were analyzed. For attempted suicides, the 8,136 registered physicians were contacted (71% responded), and the records of the County Hospital and the 14 municipal emergency hospitals were examined. This study presents an empirical survey of completed and attempted suicide cases in a metropolitan community. Data for 768 committed suicides and approximately 6,000 attempted suicides were obtained. Results, comparing commits with attempts, are presented in terms of several each sociologic, suicidal, communication, and ecological factors. Implications with respect to prevention are discussed.

- 11:30. Response to acculturation and frustration in East African tribes. LEONARD H. AINSWORTH AND MARY D. AINSWORTH, *Johns Hopkins University.*

The Rosenzweig Picture-Frustration Test was administered to students in six East African schools ( $N = 302$ ), representing different degrees of acculturation. Extrapunitive ego-defensive reactions were the most common and did not differentiate between groups. Intrapunitive reactions were significantly more frequent in the more acculturated than in the less acculturated groups. Extrapunitive obstacle-dominant reactions and impulsive ego-defensive reactions were significantly more frequent in the less acculturated than in the more acculturated groups. Thus the less acculturated groups seem more frequently to view the frustrating situation as insoluble and unavoidable, while the more acculturated groups seem more frequently to blame themselves.

- 11:40. Argument for a psychology of history. STANLEY A. RUDIN, *Wright Air Development Center.*

A major trend in social science has been the synthesis of knowledge from many disciplines the better to understand the development of societies and civilizations. It is contended here that facts, models, and methods from psychology can contribute to such an effort. A "historical psychology" would concern itself with the study of the manner in which types of persons and personality traits interact with and mutually influence the culture, structure, and general development of a society. Examples are given of the kinds of problems to be tackled, with some illustrations from our own civilization.

#### Divisions 8, 9, and 12. Symposium: Value-Conflict and Value-Congruence in Minority-Majority Group Identification

11:00-1:50. Roof Garden, Sheraton-Gibson

FRED J. GOLDSTEIN, *Los Angeles Psychiatric Service, Chairman*

##### Participants:

FRANCIS L. K. HSU, *Northwestern University.*  
American society and its value systems.

MARSHALL SKLARE, *American Jewish Committee.*  
The value systems of Eastern European Jewry and of American core society.

FLORENCE KLUCKHOHN, *Harvard University.*  
Value-conflict and value-congruence in intergroup relations.

EVELYN HOOKER, *University of California, Los Angeles.* Value-conflict and value-congruence of a homosexual group in a heterosexual society.

FRED J. GOLDSTEIN, *Los Angeles Psychiatric Service.* Identification viewed from the clinical-personality perspective.

JOSHUA A. FISHMAN, *University of Pennsylvania.*  
Self-maintenance patterns of American minorities and their value similarities with American core society.

#### Division 12. Psychopharmacology

11:00-12:50. Parlors L and M, Netherland Hilton

MELVIN MANIS, *VA Hospital, Ann Arbor, Michigan, Chairman*

- 11:00. Sensory changes with ataraxic medication in schizophrenic patients. J. R. NEWBROUGH AND EDWARD C. BECK, *VA Hospital, Salt Lake City, Utah, and University of Utah College of Medicine.*

The effect of five tranquilizing drugs—trilifon, compazine, thorazine, pacatal, vespurin—and an active placebo, phenobarbital, on the sensory modalities of 24 schizophrenic subjects was studied. A battery of ten psychophysical tests designed to yield threshold measures in visual, auditory, and kinesthetic senses was employed. Electroencephalograms were also taken. These procedures were employed after a 10-day drying out period and following 12 weeks of medication. Results indicated that, while no drug produced similar results on all tests, and across tests, still the sensory changes observed with medication were decidedly in the direction of a decrement of performance. Psychological and EEG data both suggested a decrease or lowering in central nervous system efficiency even though behaviorally the subjects appeared more stabilized.

- 11:15. The effects of meprobamate on performance on three psychomotor tests. MORGAN UPTON AND RANDALL M. CHAMBERS, *Rutgers University*.

Performance of 12 normal male subjects on the Rotary Pursuit, Two Hand Pursuit, and Two-Hand Coordination Tests was studied. The battery was given six times each to four groups of subjects within periods of 48 hours during which the subjects were continuously under laboratory control. Dosages of the drug were 800 milligrams in the second test period and 1,600 in the fourth. Three of the subjects in each group were given placebo. The variations of the curves for the drug group from those of the placebo group indicated a degree of impairment following administration of the drug.

- 11:30. A comparison of chlorpromazine and reserpine in maintenance drug therapy. DONALD R. GORHAM AND JOHN R. SHAWVER, *VA Center, Waco, Texas*.

A study was designed to compare chlorpromazine and reserpine as maintenance drugs. 120 chronic schizophrenic patients stabilized on chlorpromazine, in three matched groups, were given 200 mg. chlorpromazine, 2 mg. reserpine, and placebo in identical capsules for six months. Evaluations were made at the beginning, middle, and end on the MSRPP Scale and on specially designed scales measuring level and abnormality of activity, anxiety, mental disorganization, and interpersonal relationships. Conclusions: Gains were lost upon withdrawal of chlorpromazine; maintained with the drug. Reserpine appeared satisfactory initially, but by 6 months seemed somewhat superior in controlling most symptoms being studied.

- 11:45. The effect of lysergic acid diethylamide (LSD-25) on space localization. DONALD M. KRUS AND SEYMOUR WAPNER, *Clark University*.

This paper deals with the effects of a psychotomimetic agent on the organization of space in chronic schizophrenics. More specifically, the significant rise in the apparent horizon of chronic schizophrenics under LSD-25 is interpreted in developmental terms and is related to parallel changes found in the course of ontogenesis and psychopathology. The implications of all of these studies for organismic and developmental theory is discussed.

- 12:00. On the dissimilar drug-effect profiles of the Digit-Symbol and Continuous Performance Tests: A neuropsychological interpretation of the differences. ALLAN F. MIRSKY AND CONAN KORNETSKY, *National Institute of Mental Health*.

The drugs LSD, phenobarbital, pentobarbital, secobarbital, and meprobamate impair performance on the Digit-Symbol Substitution Test (DSST) more than

that of the Continuous Performance Test (CPT). On the other hand, chlorpromazine, prolonged sleep deprivation, and centrencephalic epilepsy have the reverse effect. The differing impairment profiles of these tests suggest that they measure different functions which depend upon different cerebral loci. There is neurophysiological and behavioral evidence suggesting that the DSST (which is viewed as a "cognitive" test) is more dependent upon cortical than subcortical functioning and that the reverse holds for the CPT (which is viewed as an "attention" test).

- 12:15. Psychological effects of ethyl alcohol and caffeine. HARVEY NASH, *Northwestern University Medical School*.

The effects on normal adults of two strengths of ethyl alcohol (15.7 and 31.4 ml./m.<sup>2</sup>), one strength of caffeine (100 mg./m.<sup>2</sup>), and a placebo were evaluated. Although intellectual functioning was enhanced by caffeine and impaired by the larger alcohol dose, drug effects varied markedly from one psychological function to another. The smaller alcohol dose produced no clear-cut effects. Potentialities and limitations of the double-blind procedure were demonstrated: it was possible to maintain virtually ideal double-blind conditions for the evaluation of caffeine, while neither subjects nor the examiner could remain blind to the effects of the larger alcohol dose.

- 12:30. Validation of a method for rapid clinical appraisal in psychopharmacological research. HARRY M. GRAYSON AND SIDNEY COHEN, *VA Center, Los Angeles*.

This paper presents validation data on the effectiveness of a method for rapid clinical evaluation in psychopharmacological research. The method (which will be described) involves an adaptation of the paired-comparisons technique. The data came from a 9-week double-blind drug experiment with 34 schizophrenic patients on a regressed-disturbed ward. For comparative purposes, the paired-comparisons procedure was applied to pre-vs.-post global psychiatric judgments, Lorr scales, MACC scales, and tape recorded psychiatric interviews (patients thus serving as their own controls) and similarly to paired patients after treatment. Statistically significant findings were obtained in almost all analyses.

## Division 15. Teaching and Learning

- 11:00-11:50. Parlors 4 and 5, Sheraton-Gibson  
NICHOLAS A. FATTU, *Indiana University*, Chairman

- 11:00. Transfer from context by subthreshold summation. GEORGE M. HASLERUD, *University of New Hampshire*.

If the paradigm of transfer is to be contextual rather than some variant of identical elements, a fundamental problem is whether a subject can respond to subtler cues after encountering relevant context. To get a more crucial test than E. E. Miller's which was done supraliminally, massed tachistoscopic repetitions were used to measure the effect of two readings of a classical limerick's first four lines upon the perception of the last half-line exposed at subthreshold level. With each as his own control, 80 college students for 18 limericks required significantly fewer exposures for relevant than for irrelevant endings.

11:10. Learning sets in a stimulus-response view of classroom motivation. EVAN R. KEISLAR, *University of California, Los Angeles*.

Certain aspects of secondary motivation in the school are viewed as the stimulus control not only of classes of behavior of varying breadth but of learning sets as well. Topics such as "getting students' attention," the selective effect of motivation upon learning, or altering certain study habits are viewed as the development of stimulus control of learning sets and as the shaping of learning sets through a program of reinforcement. Experiments carried out within this framework are reviewed. The issue of "extrinsic" versus "intrinsic" motivation is seen as a transfer problem.

11:20. The general and primary factors in student evaluation of teaching ability. THOMAS F. HODGSON AND PAUL HORST, *University of Washington*.

The dimensionality of teaching ability as judged by students commonly has received its description from a number of first-order factor constructs. The present study proposed the use of the general factor model as a more adequate method for the identification of the underlying descriptive unities. One second-order general and eight first-order primaries were sufficient to define the factor domain. The primaries were given tentative identification from their substantially loaded items. The general factor, though small in variance contribution, is offered as a meaningful expression of the "halo effect" evident from the intercorrelated items.

11:30. Teaching machine dichotomy: Skinner vs. Pressey. EDWARD FRY, *Loyola University*.

A dichotomy in the field of teaching machines has appeared between B. F. Skinner of Harvard who prefers constructed response devices and S. L. Pressey of Ohio State who prefers multiple choice response devices. Skinner stresses small well ordered steps, while Pressey does not. Skinner favors no error while working the device, while Pressey permits some error.

Pressey is willing to have the device test as it teaches, while Skinner opposes the testing function. Pressey's studies are somewhat older and larger. Both sides are represented by newer less mechanical devices such as Crowder's "scrambled book" and Homme and Glaser's "Programmed Textbook."

#### Division 15. Symposium: Psychological Research Needed in Education and the Role of the United States Office of Education.

11:00-12:50. Rookwood Room, Sinton

ERIC F. GARDNER, *Syracuse University*, Chairman

##### Participants:

CHESTER HARRIS, *University of Wisconsin*. Some problems and areas in which psychologists can make substantial contributions to education.

MEMBER of the United States Office of Education and its Advisory Committee.

#### SATURDAY AFTERNOON, SEPTEMBER 5

##### Division 8. Problems in Personality Assessment

12:00-12:50. Parlors 4 and 5, Sheraton-Gibson

PAULINE PEPINSKY, *Ohio State University*, Chairman

12:00. A systematic approach to interviewing as a method of personality assessment. BONNIE B. TYLER, FORREST B. TYLER, AND JANET E. RAFFERTY, *Southern Illinois University*.

The development of a systematic method for obtaining and analyzing data from an interview is described. The following criteria are defined for setting up such a method: use of an explicitly defined theory as a basis for organizing and analyzing the interview, development of an objective scoring system for analyzing the interview, utilization of independently defined variables for categorizing the data, and consideration of a method for dealing with inaccurate verbal report. Steps taken to meet these criteria and results which indicate the general adequacy of utilizing such an approach are presented.

12:10. The psychological meaning of acquiescence set: Further evidence. N. L. GAGE AND B. B. CHATTERJEE, *University of Illinois*.

Replicating an earlier study, the hypothesis is again tested that negative items—those stating authoritarian opinions—will be more valid than positive items. Four replications with items of the Minnesota Teacher Attitude Inventory failed to yield statistically significant combined results. The explanation offered is that these items had been highly selected and thus

equated in validity. With 738 unselected items written by Leeds when building the MTAL, the hypothesis is supported well beyond the .01 level. That is, 100 authoritarian and 100 nonauthoritarian elementary teachers, as selected by principals, were better discriminated by negative than positive items. Implications for the psychological meaning of acquiescence set are indicated.

12:20. Digit span as a function of the personality of the experimenter. ROBERT K. YOUNG, *University of Texas*.

48 "experimenters" were randomly selected from introductory psychology classes on the basis of their personality as measured by the Worchel Self Activity Inventory. Each of these experimenters administered the digit span test to one of 48 subjects also selected on the basis of their personality. Reliable differences in the performance of the subject were found to be a function of the personality of the experimenter, the sex of the subject, and the digit order. Subjects with "poorly adjusted" experimenters performed better than subjects with "well adjusted" experimenters, male subjects did better than female subjects, and digits forward were easier than digits backward.

12:30. A study of response style as a function of specificity of referent. THOMAS J. BANTA, *Columbia University*.

Nine response style scores are investigated, including use of extreme categories, acquiescence, latitude of acceptance, scatter of choice of response categories, and number of valid answers. The present research empirically evaluates the potency of a parameter of these response style measures. The Specificity of Referent continuum is sampled at three points by attitude topics differing in the degree to which the object in question was ambiguous, readily specified spatially and temporally, highly visible, etc. In addition, to insure that these findings are not method-specific, three attitude measurement techniques are used: Likert, Thurstone, and the Banta-Segall method of Unfolded Partial Rank Order.

12:40. Warm-cool color preferences as potential personality indicators. ÅKE BJERSTEDT, *University of Lund*.

Three related studies will be referred to: (a) a study attempting to demonstrate that warm and cool colors have a very different "psychological meaning" (activate different associational themes, etc.); (b) a study attempting to construct (starting from the Pfister Color Pyramid Test) a modified, more reliable, and easy instrument, called The Paired Color Pattern Device; (c) a study trying to show the possibility of making inferences from the fact of an indi-

vidual's preferences for warm or cool colors on this instrument to aspects of his personality. This will be made in terms of activation easiness, stimulus-receptive vs. stimulus-reworking tendencies, and attitude toward need gratification.

## Division 8. Wit and Humor

12:00-12:50. Sheraton Room, Sheraton-Gibson

ROGER BROWN, *Massachusetts Institute of Technology*,  
Chairman

12:00. The adaptive functions of wit and humor. WALTER E. O'CONNELL, *VA Center, Waco, Texas*.

This study tested five hypotheses concerning the effects of such variables as adjustment, stressor conditions, and sex upon the appreciation of Freudian humor, hostile wit, and nonsense wit. 332 college subjects rated themselves on self and ideal statements and later rated 30 jokes for appreciation. Before the presentation of the latter test, stressor conditions were applied by an authority figure who utilized failure-stress and insult techniques. The results add weight to the Freudian distinction between wit and humor, with wit operating as a mental dynamism under different circumstances, depending upon the interaction of adjustment, stressor, and sex factors.

12:15. Creative humor in relation to authoritarianism. ROBERT S. CLELAND, *VA Hospital, Houston, Texas*.

Experimental investigations of humor have over-emphasized humor preferences. The present study is primarily concerned with measuring creative humor. The relation between creative humor and the personality constellation of authoritarianism, as measured by the California F Scale, was also studied. It was hypothesized that low F scale scorers would exceed high scorers in ability to be humorous. A humor test utilizing incomplete cartoons was administered. Humor scores were obtained from judges' rating for 60 subjects scoring low, medial, and high in authoritarianism. Results showed significant differences in agreement with the hypothesis. Implications for theories of humor are discussed.

12:30. Characteristics of the witty group member: The wit as leader. EWART E. SMITH AND JACQUELINE D. GOODCHILDS, *Psychological Research Associates and University of Delaware*.

A field investigation of the nature of the wit, and his position in the structure of the group, revealed the following significant differences between male wits and nonwits: Wits both saw themselves and were

perceived by others as taking both more task and more group maintenance leader roles. On a semantic-differential measure, wits gave more positive descriptions of themselves and of the group. The sarcastic wit was seen as performing significantly fewer negative roles, and both his self-evaluations and number of attributed leader roles were significantly higher than the nonsarcastic wit. There were significantly fewer female wits.

#### Division 9. Symposium: Social Change as a Result of Man's Activities in Space

12:00-1:50. Ballroom, Sinton

DONALD N. MICHAEL, *Dunlap and Associates, Inc.*,  
Chairman

##### Participants:

RHODA METRAUX, *Columbia University*. Attitudes toward the United States and other countries as a result of their space activities.

HERBERT E. KRUGMAN, *Richardson, Bellows, Henry, and Co.* Depth analysis of volunteered essays on man's activities in space.

JOSEPH FINK, *System Development Corporation*. The relationship between factual information and attitudes towards man's activities in space.

JOHAN GALTUNG, *Columbia University*. The reactions of college students and of blue-collar workers to Sputnik.

DONALD N. MICHAEL, *Dunlap and Associates, Inc.* Attitudes and opinions of respondents to the *Saturday Review's* questionnaire on man's activities in space.

Discussant: GARDNER MURPHY, *Menninger Foundation*.

#### Division 17. Contributed Papers II

12:00-12:50. Parlors E and F, Netherland Hilton

JAMES H. RICKS, JR., *Psychological Corporation*,  
*New York*, Chairman

12:00. A classification for occupations in terms of personality and intelligence. JOHN L. HOLLAND, *National Merit Scholarship Corporation*.

A classification for occupations has been developed in terms of personality variables and intelligence levels. This classification has six major classes (physical activity, intellectuality, sociability, conformity, verbal activity, and emotionality) and three levels of intelligence. The evidence from 15 correlational studies ("interest" versus personality variables) has been organized to define the meaning (personality variables) of the occupational classes. Intelligence levels are defined by the use of the USES criterion. This

classificatory scheme provides a set of low order variables for testing a theory of vocational choice and a partial summary of the evidence.

12:10. Changes in self-reference during counseling.

THOMAS N. EWING AND WILLIAM B. TODD,  
*University of Illinois*.

A content analysis of statements made by college students in a standardized self-description situation results in reliable judgments of positive and negative self-references following a procedure developed by Raimy. 34 students undergoing personal counseling show significant increase in positive self-references and decrease in negative self-references when post-counseling statements are compared with precounseling statements. These changes in self-reference also correlate significantly with estimates of improved adjustment by the counselor based on the Hunt-Kogan Movement Scale.

12:20. Therapeutic personality change as a function of perceived therapist response. G. T. BARRETT-LENNARD, *Alabama Polytechnic Institute*.

This study investigates a modification of Rogers' theory of the basic conditions of therapeutic personality change. Five variables were measured from client perceptions, by means of a Relationship Inventory. Application of this technique to a sample of clients in therapy showed that four of the measures were significantly associated with an index of change derived from therapist ratings and with a separate index of improvement from self-descriptive data. It was found that the same measures were also associated with therapist expertness, using two matched groups of clients who had relatively experienced and nonexperienced therapists.

12:30. Personality and attitude characteristics associated with "therapy readiness." KATHRYN SKINNER AND GORDON V. ANDERSON, *University of Texas*.

In order to investigate the diagnostic and prognostic validity of the counselor's judgment of a client's "readiness for therapy," a theoretical formulation of the psychological construct "therapy ready" was developed within the framework of Roger's Self-Theory. As a consequence of this formulation, it was predicted that clients judged "therapy ready" would score on objective personality tests more anxious, less defensive, less comfortable, and less satisfied with their concept of self than clients judged not "therapy ready," but would not differ on certain other personality variables. The "therapy ready" client would more frequently report, during a standardized interview, attitudes which reflect realistic perceptions of counsel-

ing; he would return for more counseling interviews and be judged by his counselor as having a more successful outcome to his counseling than the not "therapy ready" client. The research data supported all of these predictions.

**Division 17. Symposium: Cognitive-Affective Approaches to Practicum Supervision**

12:00-1:50. Parlors N and O, Netherland Hilton

LEE E. ISAACSON, *Purdue University*, Chairman

**Participants:**

ARNOLD BUCHHEIMER, *Board of Higher Education, New York City*. Didactic approaches to awareness.

MARTIN HAMBURGER, *New York University*. Individual and group supervision: Complementary climates for counselor growth.

STANLEY SEGAL, *University of Michigan*. The supervisor's role in fostering uniqueness.

Discussant: JOHN M. SHLIEN, *University of Chicago*

**APA Board of Professional Affairs. Workshop on Professional Affairs: Recent Developments in Legislation**

1:00-3:50. Parlors E and F, Netherland Hilton

JANE D. HILDRETH, *APA Central Office*, Chairman

**Participants:**

NICHOLAS HOBBS, *George Peabody College for Teachers*. Relations with medicine.

W. J. McKEACHIE, *University of Michigan*. Relations with sociology.

THOMAS M. MAGOON, *University of Maryland*. Professional and nonprofessional approaches to a legislature.

ALBERT S. THOMPSON, *Teachers College, Columbia University*. The amending process.

**Division 8. Symposium: A Body Image Approach to Behavior**

1:00-2:50. Sheraton Room, Sheraton-Gibson

SEYMOUR FISHER, *Baylor University College of Medicine*, Chairman

**Participants:**

S. WAPNER, *Clark University*. Some experiments on body image from the viewpoint of organismic and developmental theory.

S. E. CLEVELAND, *VA Hospital, Houston, Texas*. Body image changes associated with personality reorganization.

S. M. JOURARD, *University of Florida*. Body image and cultural norms.

S. FISHER, *Baylor University College of Medicine*. Body image and patterns of physiological reactivity.

**Divisions 9, 12, and 18. Symposium: The Impact of Social Scientists on Public Health Services**

1:00-2:50. Rookwood Room, Sinton

MORTON BORTNER, *New York Medical College*, Chairman

**Participants:** JACK ELINSON, *Columbia University*; HENRY LENNARD, *Bureau of Applied Social Research*; ROBERT KLEINER, *Commonwealth Mental Health Center*; AND JEROME S. TOBIS, *New York Medical College*.

Discussant: HERBERT G. BIRCH, *New York Medical College*.

**Division 12. Psychopathy**

1:00-1:50. Parlors L and M, Netherland Hilton

SAMUEL KUTASH, *VA Hospital, East Orange, New Jersey*, Chairman

1:00. A persisting clique of chronic, hospitalized, mental patients. WILLIAM R. MORROW, *State Hospital No. 1, Fulton, Missouri*.

Based primarily on interviews with a patient-informant, a "case study" is presented of a long-established clique of chronic, working, male inmates of a state hospital, predominantly epileptics. The group's structure and the content of its activities and norms are described. A major motif is resentment of hospital "regimentation" and avoidance of organized hospital activities and services. The members show marked initiative, group cooperation, and solidarity in providing their own substitutes for hospital services and activities. Yet they resist taking active, constructive steps toward rehabilitation. This contradiction needs to be utilized and resolved constructively.

1:15. Class bias in psychodiagnosis of delinquents. CARMi HARARI AND JACOB CHWAST, *Interprofessional Committee on Treatment Practice with Delinquents, New York City*.

Psychodiagnostic work with delinquents must take into account social class differences between the psychologist and the subject. Failure to do this leads to serious errors in interpreting test productions. Psychologists must scrutinize carefully basic assumptions concerning the nature of the test setting, the psychological examiner, the delinquent subject, and the test instruments employed. As a result of his lower

social class membership, the delinquent develops distinctive methods of relating to authority. His behavior may, thus, be viewed not merely as an expression of deviant personality patterns but also as class determined. Observations and evaluations as well as rapport and communication are consistently distorted by class differences existing between examiner and subject.

- 1:30. The use of value conflict in therapy with the psychopathic personality. MARY ALICE WHITE, *New York Hospital-Westchester Division, White Plains, New York*.

This paper discusses the use of conflict in values between many psychopaths and their therapist. First, the values of a typical psychopathic personality are defined and, then, those of a typical therapist. The points of disagreement are analyzed, followed by a discussion of the points of contact. One type of therapeutic approach to the psychopath is then described in which the conflict in values is employed in a competitive relationship to modify the psychopath's techniques.

#### Division 12. Symposium: A General Theory of Psychotherapy

- 1:00-2:50. Pavillon Caprice, Netherland Hilton  
DAVID SHAKOW, *National Institutes of Health*,  
Chairman

Participant: PAUL BERGMAN, *National Institutes of Health*.

Discussants: CARL R. ROGERS, *University of Wisconsin*; ROY SCHAFER, *Yale University*; AND EDWARD JOSEPH SHOEN, JR., *Teachers College, Columbia University*.

#### Division 15. Teacher-Pupil Relationships

- 1:00-1:50. Parlors 4 and 5, Sheraton-Gibson  
MAY V. SEACOE, *University of California, Los Angeles*, Chairman

- 1:00. The influence of punitive teachers upon children's attitudes toward misbehavior. JACOB S. KOUNIN AND PAUL V. GUMP, *Wayne State University*.

Children ( $N = 174$ ) from three pairs of first grade classrooms were interviewed in order to test the relationship between punitiveness of teachers and pupils' attitudes toward misconduct. One classroom in each of three schools was taught by a punitive (P) teacher and the other by a nonpunitive (NP) teacher. Significant differences were: Children from P-teachers manifested more aggressivity (offenses were more serious, physicalistic, and consequences more damaging). Children from P-teachers evidenced more conflictful-

ness about misconduct (offenses were more ego-alien, premeditated, and avoidant of responsibility). Children from NP-teachers showed more concern with school-relevant norms such as institutional laws and learning.

- 1:10. Factors associated with pupil-audience reaction to teacher management of deviancy in the classroom. JAMES J. RYAN, *Wayne State University*.

The pupil-audience reaction to a teacher's management of classroom deviancy was investigated by conducting standardized interviews with 120 ninth grade students. The interviews focused upon a description of the most recent deviancy dealt with by two different teachers. Detailed information was obtained about the teacher's and the deviant's behaviors, the audience pupil's postincident reactions and judgments, and more general attitudes toward the teacher and the course. Significant relationships indicate that postincident reactions of a pupil-audience are influenced, not only by specific characteristics of the teacher's deviancy control behavior, but are also contingent upon more prevailing attitudes toward the teacher and the course she teaches.

- 1:20. Sex influences on the effectiveness of classroom comments. ELLIS B. PAGE, *Eastern Michigan University*.

A previous large-scale experiment tested the influence of teacher comments upon subsequent performance of adolescents in undisturbed classrooms. The present study adds data about sex variables related to such influences. Of 65 experimental teachers, 55 predicted their girls would respond more than boys (.0001 level). The results: Girls in general did respond more than boys (.05), and students in general responded more to men's comments than to women's (.05). These differences were attributable largely to boys' relative unresponsiveness to comments by their women teachers (.01). Some theoretical explanations are considered.

- 1:30. The effects on classmates of a deviant student's power and reaction to a teacher-exerted control technique. WILLIAM J. GNAGEY, *Manchester College*. (Sponsor, J. S. Kounin)

Four classes of fifth graders were shown a science film during which a male classmate misbehaved and became the target of a control technique exerted by a new teacher. The deviants were selected on the basis of having high and low power among their peers and were trained to react in either a defiant or submissive manner. Classmates who saw deviants act submissively perceived the teacher to be more expert and powerful, judged the control technique as fairer, and

recalled significantly more facts from the film than did classmates who saw deviants act defiantly. These effects were significantly more pronounced when the deviants had high power than when they had low power.

**Division 17 and American Catholic Psychological Association. Symposium: Values and Counseling**

1:00-2:50. Hall of Mirrors, Netherland Hilton

JOHN F. MCGOWAN, *University of Missouri*,  
Chairman

**Participants:**

- WILLIAM C. COTTLE, *University of Kansas*. Influence of counselor's conscious value judgments on client.
- LEONA E. TYLER, *University of Oregon*. Counselor's approaches to developmental changes of values in client.
- JOSEPH SAMLER, *Veterans Administration, Washington, D. C.* Changes in values: A goal in counseling.
- CHARLES A. CURRAN, *Loyola University, Chicago*. Ethical and scientific values in counseling.

**Films.**

1:00-4:50. Parlors A, B, and C, Netherland Hilton

- 1:00. Teaching Landing Approaches. University of Illinois
- 1:30. Project 33, Version B (Negro Discrimination). The Instructional Film Research Program
- 2:05. The Concurrent Effects of Chlorpromazine and Scopolamine on EEG Activity and Avoidance Behavior in Chronic Electrode Monkeys. D. A. Brodie, H. M. Hanson, and O. M. Moreno
- 2:30. Six-, Seven-, and Eight-Year-Olds Part III of a Long Time to Grow. L. Joseph Stone
- 3:05. Abby's First Two Years: A Backward Look. L. Joseph Stone

**Divisions 1, 9, 12, and Society for Projective Techniques. Symposium: Reciprocal Influences in International Psychology**

2:00-3:50. Ballroom, Sinton

HENRY P. DAVID, *Department of Institutions and Agencies, New Jersey*, Chairman

**Participants:**

- GORDON W. ALLPORT, *Harvard University*. Africa.
- EUGENE L. GAIER, *Louisiana State University*. Scandinavia.

ROGER MYERS, *University of Toronto, Canada*.

NEVITT SANFORD, *University of California, Berkeley*. Eastern Europe.

EMANUEL K. SCHWARTZ, *Postgraduate Center for Psychotherapy*. Latin America.

Two psychologists visiting from abroad, to be announced.

**Division 8. Symposium: A Decade of "New Look" Perception**

2:00-3:50. Roof Garden, Sheraton-Gibson

ALEXANDER C. ROSEN, *University of California School of Medicine, Los Angeles*, Chairman

**Participants:**

- J. S. BRUNER, *Harvard University* (with G. S. KLEIN, *New York University*). Constraints in perception.
- S. PERLOE, *Yale University*. Inhibition as a general cognitive process.
- C. W. ERIKSEN, *University of Illinois*. What is perceptual in perceptual defense.
- J. HOCHBERG, *Cornell University*. On redeemed and unredeemable promissory notes in "new look."

**Division 12. Miscellaneous Papers**

2:00-2:50. Parlors L and M, Netherland Hilton

IVAN MENSCH, *University of California, Los Angeles*, Chairman

- 2:00. Normative data for the Goodenough Draw-A-Man Test. JOHN A. POPPLESTONE, *Western Michigan University*.

This investigation reports the scores obtained on the Goodenough Draw-A-Man Test by 578 normal children, aged seven through ten and selected from two geographically disparate municipalities. The statistical techniques used 33 years ago, the time of the original standardization, showed practical identity between the original and the current samples; but cross-validation by the chi square technique revealed a lack of overall increment in score with increasing CA. This questions the validity of the test as an index of intellectual level.

- 2:10. Changes in emotional tone as reflected by color preference following experimentally induced frustration and success. WALTER A. HAAS, *VA Hospital, Lyons, New Jersey*.

This study dealt with (a) the determination of color choice, (b) its consistency, (c) its relationship to personality attributes and induced emotion. (Color choice theory holds, for example, that green and blue

are "masculinity" colors or that black implies "depression.") Results: (a) there was consistency among the three techniques used for determination of color choices, (b) color choice was consistent over a period of time, (c) personality attributes could not be distinguished by color choice alone, induced emotions did not alter the established color choice nor were specific colors used to express specific emotions. However, the addition of explanations of preferences and free association yielded a more suitable evaluation for distinguishing emotions and personality attributes.

- 2:20. Some therapeutic effects of hypnosis in a case diagnosed as a conversion reaction: An experimental study. ARNOLD E. MOSKOWITZ, *University of Kansas Medical Center*. (Sponsor, William Seeman)

Eysenck and other investigators have indicated that in the "normal" subject there is relatively little difference in dynamometer pressing during hypnosis and in the waking state for approximately the first five trials. In the present study, dynamometer readings were obtained on a patient with a conversion reaction (almost immobile left arm). Hypnotherapy was given prior to the experimental sessions. A factorial analysis of variance design indicated significant differences between the two treatment conditions as well as decreasing mean difference scores between the days. However, when the symptom was relieved, no significant differences were observed thus confirming the observations of others.

- 2:30. Changes, predictive of success on return to community of delinquent boys in institutional treatment, as revealed in sentence completions. RICHARD L. JENKINS AND EVA BLODGETT, *VA Hospital, Washington, D. C.*

Delinquent boys completed Miale-Holsopple sentence completion forms before and after treatment at Annandale Reformatory and at Highfields Treatment Center. Completions before and after were compared sentence by sentence, and each pair was scored + (improvement), - (worsening), or 0 (no ratable change). Hypothesis that improvement in score would predict success on return to community was sustained at .005 significance. Four raters could recognize a general factor of improvement predictive for boys treated in reformatory. Only one rater was able consistently to recognize a second factor of improvement developing in the Highfields program of guided group interaction.

#### Division 15. Factors in College Achievement

- 2:00-2:50. Parlors 4 and 5, Sheraton-Gibson

JACKSON B. REID, *University of Texas*, Chairman

- 2:00. The effect of ability grouping in high school upon college achievement. DAVID A. ABRAMSON, *Board of Education, New York City*.

The study was designed to compare the college achievement of students who had experienced heterogeneous or ability grouping in high school. Samples of 48 high ability graduates were selected from one special and three regular high schools on the basis of three levels of intelligence, sex, and attendance at municipal or other colleges. As indicated by the criteria of grade point averages, honors, and course grades, there were no significant differences between ability grouped students and those who had been grouped heterogeneously. Significant differences in overall achievement were associated with intelligence level rather than grouping practices.

- 2:10. Factors influencing the scholastic and social achievement of college freshmen. WILLIAM F. BROWN, *Southwest Texas State College*.

Factor analysis of separate 49-variable matrices for men and women was utilized to investigate the relationship between initial scholastic and social achievement criteria and measures of scholastic ability, English achievement, academic attitude, personality need structure, life-style orientation, peer-group affiliation, and personal and family adjustment. Of the seven and eight factors extracted, respectively, for men and women, four factors were almost identical while the remaining factors were unique. Factors significantly influencing initial scholastic achievement were previous academic accomplishment and current scholastic motivation. Previous social accomplishment was the only factor significantly related to initial social achievement in college.

- 2:20. Relationships between objective measures of personality attributes, college grades, and intelligence. JOHN R. HURLEY, *Michigan State University*.

To investigate hypotheses developed from prior research, objective tests affording measures of achievement motivation and hostile tendencies were administered to 750 incoming college students. These tests were the Edwards Personal Preference Schedule, the Iowa Picture Interpretation Test, and an abridged six-scale Minnesota Multiphasic Personality Inventory version. At the end of one academic year, correlations were computed, separately by sex, between cumulative grade point average (GPA) and the 25 individual scores yielded by these tests. Of 20 a priori predictions, 11 surpassed the .05 level and 6 retained this status after partialling out ACE-derived intelligence scores from the personality-GPA correlations.

2:30. Lecture, discussion, and decision teaching methods and student change in elementary educational psychology. JOHN G. HURST, *University of Minnesota*.

Through the use of a three-test factored battery, three teaching methods were evaluated on their effectiveness in producing student change in a one week's unit on understanding pupil self-confidence. The group decision method was significantly more effective in producing change on the general competency and specific application factors than either the lecture or the group discussion method with pre-unit status on posttests, scholastic ability, and scholastic achievement partialled out and the instructor and time variables randomized. There were no other significant differences between methods on the four posttest factors: general competence, attitude, applicational ability, and factual knowledge.

#### Division 17. Symposium: Professional Developments in Counseling Psychology: Trends and Implications

2:00-3:50. Parlors N and O, Netherland Hilton

DONALD L. GRUMMON, *Michigan State University*,  
Chairman

##### Participants:

GORDON V. ANDERSON, *University of Texas*. Higher education's challenge to counseling psychology.

ROBERT S. WALDROP, *Veterans Administration, Washington, D. C.* The practicing counseling psychologist.

WINIFRED S. SCOTT, *Vocational Counseling Service, Inc., New Haven*. The community counseling center psychologist looks at the job.

PHILIP ZLATCHIN, *New York University*. Some dilemmas of the curriculum maker.

Discussant: EDWARD S. BORDIN, *University of Michigan*.

#### Division 8. Group Structure

3:00-3:50. Sheraton Room, Sheraton-Gibson

MARVIN SHAW, *Massachusetts Institute of Technology*, Chairman

3:00. A centroid method for estimating cohesiveness in (small) groups. V. B. CERVIN, *Imperial Oil Limited, Toronto, Ontario*.

Social groups are viewed as associations of individuals interacting with respect to a common goal. The group structure is described by a goal vector with components representing individual reaction potentials with respect to the common goal. The cosines of the angles of separation between these components repre-

sent group cohesiveness. Variations in time of the vector constitute the dynamics of groups. As an illustration, the model is applied to analyze and describe a seminar group run at the University of Toronto. The group's performance is compared with the analytical results *post factum*.

3:10. Group cohesiveness as a learning phenomenon: The formation of attitudes toward group members. BERNICE EISMAN LOTT AND ALBERT J. LOTT, *Kentucky State College and University of Kentucky*.

This experiment tests the proposition that positive attitudes toward persons can be formed as a result of receiving rewards in their presence. This hypothesis is part of a formulation of group cohesiveness in which the concept has been related to general behavior principles and is defined in terms of mutual positive attitudes among group members. Children in three-person groups played a game in which conditions of reward and nonreward were manipulated. On a later sociometric test it was found that the proportion of play-group members chosen by rewarded subjects was significantly greater than the proportion chosen by nonrewarded subjects.

3:20. The effect of cumulative score on coalition formation in triads with various patterns of internal power. W. EDGAR VINACKE, *University of Hawaii*.

Previous experiments with three-person groups confirm hypotheses concerning outcome in a simple game, when there are internal power differences. One conclusion has been that the two weakest members tend to ally against the strongest. Games as separate events are here compared with maintaining a cumulative score. 30 triads of each sex played 18 games (of six power-patterns) under each condition. Results are reported for four power-types. With cumulative score, the two behind tend to ally, regardless of initial strength. Perception of initial strength remains the major determinant of play, but based on relative standing in the series.

3:30. Organization and group vigilance. BERNARD W. HARLESTON, LORRAINE D. EYDE, AND THORNTON B. ROBY, *Tufts University*.

Relationships between assignment structures and group performance on three monitoring tasks were investigated. The three structures studied were: four persons jointly monitoring for four signals, two pairs of persons each responsible for two signals, and individuals assigned to a single signal. Each of nine groups of male Tufts undergraduates performed in three task-structure combinations in a latin square design. Significant structure effects and task-struc-

ture interactions were obtained. There was apparently no relationship between group performance and individually measured task scores for group members. The results are interpreted in terms of statistical grouping effects, division of attention, and social facilitation.

**Division 12. Symposium: Current Research Methods: II. Semantic Differential**

3:00-4:50. Pavillon Caprice, Netherland Hilton

WILLIAM SCHOFIELD, *University of Minnesota*,  
Chairman

**Participants:**

EDWARD E. WARE, *University of Illinois*. The semantic differential and research in psycholinguistics.

C. SCOTT MOSS, *State Hospital No. 1, Fulton, Missouri*. Contributions and current status of semantic differential studies.

JOHN B. CARROLL, *Harvard University*. Critique of the semantic differential.

**Division 15. Symposium: The Psychological Analysis of Classroom Processes**

3:00-5:50. Rookwood Room, Sinton

WILLIAM CLARK TROW, *University of Michigan*,  
Chairman

**Participants:**

BRUCE BIDDLE AND EARL RANKIN, *University of Kansas City*. Teacher role in the classroom process.

JACOB KOUNIN, *Wayne State University*. The study of teacher management and control techniques.

FINLEY CARPENTER, *University of Michigan*. Learning process in the classroom setting.

This symposium is a continuation of the work of the subcommittee of the APA Committee on Relationships between Psychology and Education. Members will be in attendance for discussion.

**Division 8. Interpersonal Influence**

4:00-4:50. Sheraton Room, Sheraton-Gibson

MILTON J. ROSENBERG, *Yale University*, Chairman

4:00. The process of interpersonal influence: Influence transmission and development. JOHN M. ATTHOWE, JR., *University of Alabama*.

Interpersonal influence was studied as a special case of behavioral change. Differences between individual and dyadic modes of decision making were examined. Influence transmission (total decision

change) was a direct function of the uncertainty of the task and the amount of verbal communication. A strong influence relationship (dominant leadership) also varied directly with task uncertainty but inversely with verbal communication. Decision leadership was positively associated with the expertness and degree of "rationality" of the influencer. A compensatory tendency was found in that the less rational partner (the follower) tended to determine the tempo at which the decisions were made.

4:30. The effects of congruent and conflicting social and task reinforcements on the acquisition of an imitative response. JOHN T. LANZETTA AND VERA T. KANAREFF, *University of Delaware*.

The present study examined the effects of a social reinforcement (emotional response of a partner) either congruent or in conflict with a task reinforcement (indication of correctness) on the frequency of utilization of an imitative response in a two-choice prediction situation. The results indicate that the instrumental value of imitation in achieving success, i.e., the probability of task reinforcement, is more important in determining the level of imitation than a partner's emotional reaction to the response.

**Division 9. Business Discussion Meeting**

4:00-4:50. Ballroom, Sinton

KENNETH B. CLARK, *City College of New York*. Psychology and Social Policy: 1959.

A rank-and-file discussion meeting.

**Division 12 Committee on Current Developments. Special Interest Session on Marital Counseling**

5:00-5:50. Parlors L and M, Netherland Hilton

KENNETH B. LITTLE, *National Institute of Mental Health*, Chairman

A meeting arranged by the committee for persons interested in discussing the role of psychologists in this area.

**SATURDAY EVENING, SEPTEMBER 5**

**Divisions 8 and 10. Symposium: Fertility and Sterility in the Artist**

8:00-9:50. Pavillon Caprice, Netherland Hilton

GEORGE S. KLEIN, *New York University*, Chairman

Participants: The American playwrights, CLIFFORD ODETS AND WILLIAM GIBSON.

## APA DAY, SUNDAY, SEPTEMBER 6

### Addresses by the Recipients of the 1958 APA Distinguished Scientific Contributions Awards

9:30-12:00. Taft Auditorium (Fifth Street at Sycamore Street)

E. LOWELL KELLY, Chairman

FRANK A. BEACH, *University of California*. Experimental Analysis of Species-Specific Behavior.

PAUL E. MEEHL, *University of Minnesota*. The Cognitive Activity of the Clinician.

B. F. SKINNER, *Harvard University*. Pigeons in a Pelican.

### Invited Address

2:00-3:30. Taft Auditorium

DONALD O. HEBB, Chairman

ROBERT S. MORISON, Director, *Division of Medical and Natural Sciences, Rockefeller Foundation*. Gradualness, Gradualness, Gradualness—I. P. Pavlov.

### APA Reception for Wives and Guests

3:45-5:00. Taft Museum (316 Pike Street)

### Annual Report to the Members of the APA

3:45-5:00. Taft Auditorium

WOLFGANG KÖHLER, President

MEREDITH P. CRAWFORD. APA Finances and the 1960 Budget.

LAUNOR F. CARTER. Major Decisions of the 1959 APA Council Meetings.

ROGER W. RUSSELL. Annual Report of the Executive Secretary.

### APA Distinguished Scientific Contribution Awards

5:00-5:15. Taft Auditorium

HAROLD SCHLOSBERG, Chairman

### Awards and Announcements of the American Psychological Foundation

5:15-5:30. Taft Auditorium

JOSEPH McV. HUNT, President, American Psychological Foundation

### Address of the President of the APA

7:45-9:00. Taft Auditorium

HARRY F. HARLOW, Chairman

WOLFGANG KÖHLER. Gestalt Psychology Today.

### Reception for the Members of the APA by the Officers and Members of the Board of Directors

9:00. Taft Auditorium

## MONDAY MORNING, SEPTEMBER 7

## Divisions 2. Symposium: The Training of Psychologists for Applied Fields

9:00-10:50. Sheraton Room, Sheraton-Gibson

RALPH H. TURNER, *Oberlin College*, Chairman

## Participants:

DELL LEBE, *Child Guidance and Speech Correction Clinic, Jacksonville, Florida*. The history and trial of special degrees in applied psychology.S. D. S. SPRAGG, *University of Rochester*. How should tomorrow's non-PhD psychologists be trained?E. J. ASHER, *Purdue University*. Implications of social demands for PhD training in the applied fields.ERNEST FURCHTGOTT, *University of Tennessee*. An analysis of doctoral dissertations.Discussant: EDWARD S. BORDIN, *University of Michigan*.

## Division 3. Drugs and Performance

9:00-9:50. Hall of Mirrors, Netherland Hilton

ROGER KELLEHER, *Smith, Kline, and French Laboratories*, Chairman9:00. Effect of chemical structure of tranquilizers on the behavior of isolated mice. T. C. BARNES, *Hahnemann Medical College*.

Isolation stress in mice was susceptible to chemical alterations in the structure of tranquilizing drugs. Closed structures (benzene rings) seemed to enhance tranquilizing action as judged by suppression of head twitch, supporting the theory that pharmacological blocking agents have larger structures than neurohormones (umbrella effect). Evidence suggests that epinephrine was involved in the neurotic behavior of mice in solitary confinement. One of the weakest tranquilizers was meprobamate, which correlates with its use in human psychiatry. A new form of glutamic acid had tranquilizing and anticonvulsant action.

9:10. Effects of drugs in a new test of action threshold to fear and pain. HERBERT BARRY, III AND NEAL E. MILLER, *Yale University*.

Albino rats were given successive trials in a situation where an electric shock gradually increased in voltage until the animal reset it to zero by turning a wheel. Wheel turns while the shock was considerably below pain threshold (anticipatory responses) were very frequent among animals shocked through the grid floor but occurred seldom among animals shocked through electrodes chronically implanted in the scalp

or in certain areas of the hypothalamus. A variety of stimulant and depressant drugs were tested for their effects on frequency of anticipatory responses and on threshold for wheel turning response to pain.

9:20. Effects of nicotine on timing behavior in the white rat. IRVING GELLER, ANTHONY O. DEMARCO, AND JOSEPH SEIFTER, *Wyeth Institute for Medical Research, Radnor, Pennsylvania*.

Food deprived rats learned to lever press for liquid food on a differential reinforcement of low rate responding (DRL) schedule. On such a schedule a response produced a reward only if it followed the preceding lever response by at least 20 seconds. When this timing behavior for all rats had reached stability, they were administered nicotine bitartrate 0.1 to .25 mg. base/kg. intraperitoneally. Injections were given just prior to the experimental session and not more frequently than once a week. Immediate effect of nicotine was a slight disruption of timing behavior. More pronounced delayed effects occurred three and four days after the drug administration.

9:30. The effect of prochlorperazine (compazine®) on multiple schedule reinforcement performance in the albino rat. JOHN T. KULAK, JR., IRVING GELLER, AND JOSEPH SEIFTER, *Wyeth Institute for Medical Research, Radnor, Pennsylvania*.

Five hungry rats learned to lever press on a fixed ratio, fixed interval, multiple schedule of reinforcement for solid food reward. When behavior on either component of the multiple schedule reached stability under the control of auditory stimuli, the drug was administered intraperitoneally in doses ranging from .05 to 5.0 mg./kg. The highest dose completely suppressed all components of the multiple schedule. Decreasing the dose resulted in concomitant decrease in effects upon both components of the multiple schedule. Under our experimental conditions compazine has a much greater potency than either promazine (sparine®) or promethazine (phenegan®).

## Division 3. Human Verbal Learning

9:00-9:50. Parlors L and M, Netherland Hilton

IRVING J. SALTZMAN, *Indiana University*, Chairman9:00. The effect of repetition, interference, and difficulty on the formation of paired associates. LAWRENCE B. JOHNSON AND MAX MEENES, *Operational Applications Laboratory, Washington, D. C., and Howard University*.

An attempt was made to repeat and expand Irvin Rock's work concerning the all-or-none characteristics of paired associate learning. Notably, the re-

removal of incorrect associations at the end of each recall period and the subsequent substitution of new pairs on the learning trials provided learning of a given number of paired associates at the same rate as when no substitution is given. Introduction of effects to cause interference did not disrupt the learning process; however, the relative ease or difficulty of similar alphabet-number combinations did suggest some qualifications of the all-or-none formation of associations.

9:10. Proactive inhibition as a function of degree of practice of the two tasks. RICHARD O. ROUSE, *Williams College*.

This study, presented as part of an attempt to formulate an explanation of incidental learning, vigilance, proaction, and retroaction, is a test of Underwood's two-factor (associative strength and differentiation) theory of proaction, according to which interference with second task acquisition and retention is greater for moderate than for low and high degrees of first task practice. The prediction is only partly confirmed by data from 1,275 experimentally naive subjects in a replicated design varying degree of first and second task practice. The applicability of an extension of the concept, input limitation due to channel capacity, is proposed.

9:20. The role of repetition and set in paired associate learning. JAMES C. REED AND WINIFRED D. RIACH, *Wayne State University*.

Repetition in paired associate learning is a necessary factor in the formation of associations in letter-number pairs. A control group learned a paired associate task in traditional fashion. For an experimental group, unlearned pairs were removed and new ones substituted after each trial. Differential set was verbally induced for subjects of each group. The controls made significantly fewer errors than the experimental subjects, but set had no effect. The results are contrary to those reported by Rock. The hypothesis is supported that repetition serves to increase the strength of the bond until an elicitation level is reached.

9:30. S-R and R-S learning as functions of intralist similarity. ROBERT BUCKHOUT AND SLATER E. NEWMAN, *North Carolina State College*.

The following four predictions were tested: As similarity among the stimulus terms of S-R pairs is increased, the number of stimulus terms correctly elicited during the R-S retention measurement following S-R learning will decrease. As similarity among the response terms of S-R pairs is increased, the number of stimulus terms correctly elicited during R-S retention measurement following S-R learning will decrease. As the degree of similarity among stimulus

terms of S-R pairs is increased, the rate of S-R learning will decrease. As the degree of similarity among response terms of S-R pairs is increased, the rate of S-R learning will decrease.

### Division 3. Somesthesia

9:00-9:50. Parlors N and O, Netherland Hilton

DANIEL R. KENSHALO, *Florida State University*,  
Chairman

9:00. Contralateral transfer of somesthetic discriminations in monkeys after section of major hemispheric commissures. MITCHELL GLICKSTEIN AND R. W. SPERRY, *California Institute of Technology*.

The experiment attempted to verify the existence of contralateral transfer of somesthetic discriminations in callosum-sectioned monkeys and to study its nature. Four rhesus monkeys underwent midline section of corpus callosum, anterior and hippocampal commissures. These and three unoperated controls were trained to perform rough-smooth, high-low, and other tactual discriminations with one hand and were then tested for transfer to the second hand. In all cases the motor set for testing and the general approach to the problem showed consistent transfer. However, in two of these three experimental animals tested on a new series of problems, sensory aspects of the tactual problems—that is, the specific knowledge of which pattern was correct—did not transfer.

9:10. The distance function in somesthetic masking of the fingers. WILLIAM R. UTTAL, *IBM Research Center, Yorktown Heights, New York*.

By using the fingers in a somesthetic masking experiment, it is possible to determine a distance function of the effects of masking stimuli. In the present experiment absolute threshold measurements were made of the pulse electrical currents necessary to produce a sensation in the fingers under conditions of no masking and three other levels of masking stimuli applied to the other fingers. The results of the experiment indicated a general decrease, with several significant exceptions, in the masking effect as distance between the masked and test fingers increased as well as a general increase in masking effect with increasing masking stimulus levels.

9:20. Deficits in somesthetic discrimination after posterior parietal lesions in monkeys. MARTHA WILSON, JOHN S. STAMM, AND KARL H. PRIBRAM, *University of Colorado and Institute of Living*.

The method of constant stimuli was employed with four monkeys to determine whether bilateral pos-

terior parietal lesions affected roughness discrimination. Four normal monkeys acted as controls. Pre- and postoperative thresholds (stimulus values eliciting 75% correct response) were compared for the two groups. The change in threshold for the normals was significantly different ( $p < .05$ ) than that for the parietals. Additional practice increased the number of correct responses for both groups, but the parietals were unable to reach the normal level of performance on difficult stimuli. This suggests a capacity loss in the operated animals.

- 9:30. Cutaneous electrical delta I. GLENN R. HAWKES, *United States Army Medical Research Laboratory.*

Smaller delta I values in audition have been reported with Riesz' fluctuating tone method than when presenting separate tones; the opposite has been reported for mechanical cutaneous vibration. Both methods were used in the present study to determine delta I for finger tip stimulation. Frequencies of 100, 500, and 1,500 cps were used. Frequency of stimulation and method of presentation had a negligible effect on the size of delta I. Delta I/I was found to be significantly larger at the weaker standard intensity level used than at the stronger, a finding in agreement with reports from a number of modalities.

#### Division 5. Evaluating Indices of Personality and Status

- 9:00-9:50. Parlors 8 and 9, Sheraton-Gibson

BERNARD M. BASS, *Louisiana State University,*  
Chairman

- 9:00. Three so-called measures of anxiety evaluated under conditions of environmental stress. ROBERT TOAL, DELL LEO, and HARRY BRICK, *University of Tennessee, Child Guidance Clinic, Jacksonville, and Virginia State Penitentiary.*

Rorschachs, Manifest Anxiety Scales, and Bender-Gestalts are used in investigations of methodological and theoretical importance to anxiety. Hence, they deserve examination. The anxiety of 24 matched prisoners living under stress was measured and manipulated to determine whether differences in the magnitude of this variable were reflected in the alleged indicators. All subjects had pronounced symptoms of observable anxiety. Half of them received CO<sub>2</sub> therapy, and half received nothing. All continued living in a stressful environment. Statistical analysis revealed that significant reductions occurred in MAS and B-G scores but not in 14 Rorschach indices. Clinical and research implications are discussed.

- 9:10. The measurement of rigidity in a group of high school students. BERNARD B. BRAEN AND NORMAN E. WALLEN, *Onondaga County Child Guidance Center and University of Utah.*

This study attempts to assess the value of two theoretically based manifest rigidity inventories for measuring the rigidity variable in high school and college students. Resistance to extinction defines rigidity on the Wesley scale, and boundary impermeability represents the theoretical base for the Braen Self-Description Inventory (SDI). Results showed that the high school group appeared less rigid than the college students. Three of the four subscales on the SDI seemed to measure the same aspects of behavior as the Wesley scale. Low reliabilities indicated that the two scales have less value for assessing rigidity in high school students than for a college group.

- 9:20. Generality of unidimensional scales of job satisfaction in varying employment situations. ROBERT E. STOVER, *Pennsylvania State University.*

Ten job satisfaction scales of 9-15 items each were determined from a Guttman scalogram analysis of 170 items administered to 600 telephone company employees. The scales are identified as: work environment, wages and benefits, friendliness of fellow workers, supervision, competence of management, personal recognition, job security, communication from management, communication to management, and printed communication. The scales were then tested for scalability in six different work situations: three separate and geographically distant telephone companies, a manufacturing company, and two research and development electronics organizations. In all six cases, the scales met all criteria of scalability. These scalable dimensions offer sufficient generality to serve as a basis for further research in job satisfaction.

- 9:30. Correlations of indexes of families' socioeconomic status. EDWIN D. LAWSON AND WALTER E. BOEK, *State University of New York College for Teachers at Albany and New York State Department of Health*

The purpose of this study was to compare and evaluate seven measures of socioeconomic status (Warner, Hollingshead, centers, income, room-person ratio, self-estimation, and interviewer rating). Data were obtained from mothers representing 1,432 families in 15 communities (urban, suburban, and rural) in upstate New York. Correlations were computed between the measures. Occupations of fathers were also related to socioeconomic status. Results indicate that the Warner scale is the best measure

followed by the Hollingshead. Income correlated poorly with other indexes. Fathers' occupation was found closely related to social class level and probably adequate for most research needs.

#### Division 5. Factor Analytic Studies I

9:00-9:50. Parlor 7, Sheraton-Gibson

JOHN R. WITTENBORN, *Rutgers University*,  
Chairman

9:00. Factor analysis of the AVA. PETER F. MERENDA and WALTER V. CLARKE, *Walter V. Clarke Associates*.

21 core words of the Activity Vector Analysis were factor analyzed. Four significant factors clearly emerged. A fifth factor appeared as a residual. Rotation to an oblique reference frame yielded four factors which were clearly interpretable in terms of the psychological model underlying the AVA. The data of the study definitely suggest that self-perceptions as measured by the AVA yield information useful in personality description which may be classified in the four areas of aggressiveness, sociability, emotional control, and social adaptability.

9:15. Dimensions of social desirability. SAMUEL MESSICK, *Educational Testing Service*.

Attempted controls in personality inventories for the tendency to respond in a socially desirable way assume that the domain of desirability is unidimensional. To evaluate this assumption, desirability ratings of 42 statements from the Edwards Personal Preference Schedule were intercorrelated and factor analyzed. The nine factors obtained were rotated to oblique simple structure and given tentative interpretations; in general, the items did not cluster according to the traits hypothesized in the inventory. The factors represent different "points of view" about desirability and suggest that the equating of items in terms of a single average desirability scale would leave much of the consistent variance of the ratings uncontrolled.

9:30. A factor analytic study of judged relevance of test items. LEDYARD R. TUCKER and WILLIAM E. COFFMAN, *Educational Testing Service*.

In achievement testing, the value of a test depends on the relevance of its items as judged by teachers. This study investigated the structure of such relevance judgments for an experimental Test of Developed Abilities in Social Studies by 17 expert teachers. Correlations between pairs of teachers over 225 items ranged from  $-.45$  to  $+.69$ . A factor analysis of the sums of squares and products matrix between

teachers yielded two factors: one indicating considerable general agreement favoring items combining information and reasoning skills; the second indicating some controversy regarding the relative importance of factual information and of reasoning skills.

#### Division 9. Symposium: Current Theory and Research on War and Peace

9:00-10:50. Ballroom, Sinton

THEODORE F. LENTZ, *Peace Study Institute*, Chairman

##### Participants:

ALFRED E. KUENZLI, *Southern Illinois University*.

The image of one's own and of other countries as a factor in international conflicts.

PETER C. NITTOL, *Southern Illinois University*.

The reduction of international conflicts through economic unification.

J. DAVID SINGER, *University of Michigan*. Value systems, foreign policy, and Soviet-American co-existence.

Discussant: ARTHUR GLADSTONE, *Chestnut Lodge Research Institute*.

#### Division 12. Conditioning

9:00-10:50. Parlor G, Netherland Hilton

WARREN NORMAN, *University of Michigan*, Chairman

9:00. Operant conditioning of hostile verbs in relation to experimenter and subject characteristics. DONALD C. FERGUSON and ARNOLD H. BUSS, *University of Pittsburgh*.

The operant conditioning task involved selecting either a neutral or a hostile verb and using it in a sentence. The use of hostile verbs was reinforced. A male and a female experimenter each played two roles: with one group of subjects the experimenter was aggressive, and with the other group the experimenter was neutral. It was found that: an aggressive experimenter retards operant conditioning of hostile verbs; sex of experimenter and sex of subject do not significantly affect such conditioning. It is possible that the aggressive experimenter either inhibits aggressive responses or is a weaker reinforcing agent.

9:15. Reinforcement and personality factors in verbal conditioning. ARNOLD BINDER and PHYLLIS SALOP, *Indiana University and Vanderbilt University*.

The effects of personality differences on verbal conditioning trends under three reinforcement conditions were investigated. The experimenter's response "Good" was used for one group of subjects, electric

shock for another group, and no reinforcement for the third. Reinforcement contingency was the use of a past-tense, rather than a present-tense verb, in a sentence. Subjects above the median on each MMPI scale were compared for learning trends with those below the median. "Good" led to a significant overall acquisition trend, but shock did not. All extinction trends were not significant. However, there were more significant differences between personality groups during extinction than during acquisition.

9:30. Verbal conditioning of two response classes.

JOSEPH D. MATARAZZO, GEORGE SASLOW, AND E. NELSON PAREIS, *University of Oregon Medical School*.

Using four groups of 20 college undergraduate subjects each and "Good" as the reinforcement, it was found in replicated experiments that: (a) An older and younger male experimenter both could condition human responses, while neither could condition plural nouns; thus, the experimenter was a less important variable than was response class being conditioned. (b) Verbal conditioning was independent of such subject variables as age, sex, education, vocabulary level, Taylor Anxiety level, and total time to complete the conditioning experiment. (c) These results were uninfluenced by potential observer-scorer errors as the 36 Pearson  $r$ 's for two independent scorers and the experimenter, each compared with the others, ranged from .97 to .99.

9:45. Responsivity to verbal conditioning as a function of two different measures of "awareness."

LEONARD KRASNER, ROBERT L. WEISS, AND LEONARD P. ULLMANN, *Stanford University and VA Hospital, Palo Alto, California*.

Previous investigations of verbal conditioning excluded from analysis subjects reporting a relationship between subject's and experimenter's behavior because awareness was thought to reduce responsivity. This research used 80 college students with maximal academic exposure to verbal conditioning. Subjects significantly increased use of reinforced verbal behavior. Interviewed after nine four-minute conditioning trials, only 38% reported a relationship between their and the experimenter's behavior. Half the subjects were then given cues to increase awareness of this relationship. These subjects decreased in responsivity on succeeding trials compared to controls. Among controls, level of reported awareness was not significantly related to responsivity on succeeding trials.

10:00. Verbal conditioning in psychotherapy. ROBERT I. WILLIAMS, *VA Hospital, Coatesville, Pennsylvania*.

Verbal conditioning procedures were incorporated into individual psychotherapy in an effort to objectify a therapeutic interaction process without seriously altering it. Social reinforcement ("Mm-hmm," a cue of the therapist's attention) was selectively applied to statements of feeling and nonfeeling in two groups. Differential change from operant proportion of feeling statements between these treatment groups, and comparison with a usual psychotherapy control, yielded evidence for the operation of verbal conditioning. This resembles a "technique" of behavior modification or psychotherapy. Subjects revealed no awareness of the subtle reinforcement cues nor of change in their verbal behavior—they perceived this as psychotherapy.

10:15. Verbal learning and anxiety in normal and neurotic individuals. PAUL J. RHUDICK, *VA Out-patient Clinic, Boston, Massachusetts*. (Sponsor, Robert W. White)

Certain anticipated consequences of the Taylor-Spence theory of the drive characteristics of anxiety and psychoanalytic theory of defenses were tested experimentally with paired-associates learning material which varied in potential for eliciting competing response tendencies. With noncompetitive material, a neurotic group surpassed a normal one. This finding was reversed with competition material. As hypothesized, hysterics exhibited the poorest performance on competition material because of use of repression, while obsessives surpassed the hysterics because of use of isolation and intellectualization. These findings suggest extension of the Taylor-Spence theory to account for variance associated with mode of handling anxiety.

10:30. Reactions of schizophrenics to GSR conditioning and ataractic therapy. LONNIE E. MITCHELL, *VA Mental Hygiene Clinic, Washington, D. C.*

49 schizophrenic patients, 23 control and 26 experimental, evaluated on the Taylor MAS, Winne, and Guilford STDCR were subjected to GSR conditioning before and after 30 days of thiorazine therapy. Analyses of GSR acquisition, skin resistance measures, and personality questionnaire scores showed that thiorazine has a highly statistically significant effect on GSR conditioning. Differences were significant beyond the .001 level of confidence. The findings support the hypothesis that conditioning in schizophrenics is made more difficult by the administration of thiorazine. Moderate amounts of thiorazine result in greater resistance to conditioning than high dosages.

**Division 12. Symposium: Treatment of the Chronic Mental Patient**

9:00-10:50. Pavillon Caprice, Netherland Hilton

JOSEPH McV. HUNT, *University of Illinois*, Chairman**Participants:**RICHARD SANDERS AND BERNARD WEINMAN, *Philadelphia State Hospital*. Psychosocial treatment of the chronic mental patient: A rationale.BERNARD J. FITZGERALD AND JANICE HOBKIRK, *Philadelphia State Hospital*. Description of a rehabilitation program and preliminary results.ROBERT S. SMITH AND AARON SMITH, *Philadelphia State Hospital*. Research design and preliminary findings.Discussant: JOSEPH M. BOBBITT, *National Institute of Mental Health*.**Division 12. Symposium: What Length and Intensity for Psychotherapy**

9:00-10:50. Roof Garden, Sheraton-Gibson

DANIEL N. WIENER, *VA Mental Hygiene Clinic, St. Paul*, Chairman**Participants:**FAY KARFF, *Beverly Hills, California*. The case for time limited treatment.LOUIS A. GOTTSCHALK, *University of Cincinnati*. The case for long-term therapy.DANIEL N. WIENER, *VA Mental Hygiene Clinic*. Interminability and supportive therapy.MAURICE LORR, *VA NP Research Laboratory, Washington, D. C.* Factors in abortive treatment.JOHN M. SHLIEN, *University of Chicago*. Effects of delimiting length of treatment.E. LAKIN PHILLIPS, *Washington, D. C.* The role of structure in psychotherapy.**Division 14. Paper Reading Session I**

9:00-9:50. Parlor 5, Sinton

ROBERT D. DUGAN, *State Farm Life Insurance Company*, Chairman9:00. The Posting Problems Technique as a basis for training. ALLEN R. SOLEM, *University of Maryland*.

Maier's Posting Problems Technique was used for establishing the framework of a series of middle management training institutes. Preliminary results indicate that the method is superior in certain important respects to other current procedures for determining what are the appropriate principles, methods, and procedures for gearing the training to supervisory problems within structure of problem solving concepts.

9:15. Value, behavior, and the perception of work performance. JAMES T. MAHONEY, *VA Hospital, Brockton, Massachusetts*. (Sponsor, Don Haefner)

A work performance value theory is elaborated and several hypotheses derived from the theory tested. Significant relationships were found between the degree of homogeneity of reference group and the internal consistency of performance value systems of judges. Supervisors displayed more consistent value systems than nonsupervisors. Supervisors within similar occupational categories held more similar performance values than supervisors representing widely disparate occupations. A significant association was found between employee-supervisor congruence of performance value systems and supervisory ranking of employee performance. The implications of these findings for the criterion problem and the area of worker-supervisor communication are discussed.

9:30. Individuality as a factor in the success of management personnel. EDWIN E. GHISELLI, *University of California, Berkeley*.

Management personnel were rated by their peers on 18 traits pertaining to their job performance. The intercorrelations among persons were computed and cluster analyzed. Each man was scored in terms of the degree to which his patterns of traits was dissimilar to those characterizing men in any of the clusters. The coefficient of correlation between these values, termed measures of individuality, and over-all job success was found to be .541.

**Division 14. Symposium: Research in Action: I. Educational Testing Service and Life Insurance Agency Management Association**

9:00-10:50. Rookwood Room, Sinton

HARRY W. KARN, *Carnegie Institute of Technology*, Chairman**Participants:**LEWIS B. WARD, *Educational Testing Service*. Description of the organization and objectives of the Executive Study.JOHN K. HEMPHILL, *Educational Testing Service*. Description of specific studies in the executive research program.S. RAINS WALLACE, *Life Insurance Agency Management Association*. Description of the research program in a trade association.ROBERT C. NUCKOLS, *Life Insurance Agency Management Association*. A specific research study: Level of aspiration as a factor in consumer buying intentions.

### Division 17. Symposium: Ecology of the American College Student

9:00-10:50. Crystal Room, Sinton

FRANK M. FLETCHER, JR., *Ohio State University*,  
Chairman

Participants: GEORGE G. STERN, *Syracuse University*;  
AND FRANK R. PETERS, *Ohio State University*.

Discussants: LAUREN G. WISPE, *National Institute of  
Mental Health*; AND ALBERT S. THOMPSON, *Teachers  
College, Columbia University*.

#### Films.

9:00-11:50. Parlors A, B, and C, Netherland  
Hilton

(For titles, see Films on Friday)

### APA Board of Professional Affairs. Workshop on Professional Affairs: State Examining Procedures

10:00-11:50. Parlors E and F, Netherland Hilton

JOSEPH R. SANDERS, *New York State Department of  
Education*, Chairman

### Division 3. Animal Motivation I

10:00-10:50. Parlors L and M, Netherland Hilton

ABRAM AMSEL, *Tulane University*, Chairman

10:00. Effects of a competitive situation on the speed of response. RUSSELL M. CHURCH, *Brown University*.

Pairs of rats pressed a lever more rapidly than matched controls if the faster was reinforced at 15-sec. intervals, and they responded more slowly than matched controls if the slower was reinforced at 15-sec. intervals. In this situation, as in any competitive situation, there was a differential reinforcement of some response characteristic. Such differential reinforcement, rather than any change in the motivational level of the subjects, may be responsible for the facilitation of response often observed in competitive situations.

10:10. The effect of electroconvulsive shock on an instrumentally conditioned emotional response ("conflict"): The significance of the interval between the emotional conditioning and the electroconvulsive shock. GERTRUDE J. WILLIAMS, *St. Louis Municipal Health Center*.

Brady demonstrated that electroshock convulsions (ECS) attenuate a simple, classically conditioned emotional response when the interval between the last emotional conditioning trial and first ECS is short; attenuating effect is minimized when interval is lengthened. In the current experiment, thirsty rats, trained to traverse the electrically charged grid of a straightaway for water, exhibited a fairly complex instrumental response pattern to this conflict situation. Whereas a mere residual of the conflict pattern remained when the pre-ECS interval was one day, the conflict pattern was minimally effected when the pre-ECS interval was 13 days. Varying the pre-ECS interval has the same effect on emotional responses, whether classically or instrumentally conditioned.

10:20. "Fear" conditioning under varying degrees of unconditioned response restriction. MERVYN K. WAGNER, NEIL D. KENT, AND DONALD R. GANNON, *Louisiana State University*.

The use of a "fear" construct has been partially justified by the observation that the UCR during the phase when the CS is acquiring aversive properties may differ from the response required to terminate the (acquired) aversive stimulus in later learning. This observation was investigated by subjecting rats to differential physical restraint during "fear" conditioning with shock. During subsequent training where hurdle jumping terminated the (acquired) aversive stimulus, the restraint produced a decremental effect, even though the restrained animals were apparently more "emotional" during original acquisition. These results are not incompatible with the hypothesis that the unconditioned response during "fear" acquisition must be similar to the response required to terminate the (acquired) aversive stimulus during later instrumental conditioning.

10:30. The effect of drive on acquisition and extinction as measured by running speeds and correct turns. EBERT VAN BUREN AND DONALD J. LEWIS, *Louisiana State University*.

The problem is to determine whether drive affects learning, performance, or both. Previous research has been equivocal. T maze studies have shown drive to have no effect on learning, while some runway studies have indicated at least a small learning effect. The present study obtained both running speed and correct turn measures in the same apparatus. Two conditions of deprivation and two lengths of acquisition were manipulated factorially. Results indicated a considerable effect of acquisition drive on extinction speeds and some effect of acquisition drive on extinction turns. These results are cautiously interpreted to indicate that drive does affect learning.

**Division 3. Vision I**

10:00-10:50. Parlors N and O, Netherland Hilton  
 PETER ARNOTT, *State University of Iowa*, Chairman

10:00. The relation between the electrointra-retinogram (EIRG) and the electroretinogram (ERG).  
 ERNEST DZENDOLET, *Brown University*. (Sponsor, Leroy D. Pigg)

Whether the electrointra-retinogram (EIRG) and the electroretinogram (ERG) are related or not is important since the ERG is the main human retinal activity measure available. Clarification would help to determine the emphasis to place on human ERG studies. The results reported here show that in an opened, in-place, frog eye, the EIRG is present only when the reference is on the cornea. In a nearly intact eye, the EIRG is never seen. It appears that the EIRG is an artifact of the type of eye preparation and the reference electrode placement employed.

10:10. The effect of hypoxia on the amplitude of the X-wave and the B-wave of the human electroretinogram. J. H. HILL, *Washington University*.

Electroretinograms were elicited while the subject breathed air 12 minutes; a 9% oxygen-balance nitrogen gas mixture, 30 minutes; and then air again, 20 minutes. X-waves elicited by dark red, light red, green, or blue light presented at four flashes or 20 flashes per second were reduced in amplitude when the subject breathed the 9% oxygen mixture. The reduction did not vary with stimulus spectral composition, but was proportional to the X-wave amplitude during the initial air breathing period. The amplitude of B-waves elicited by the four-per-second flashes varied little, if at all, with the gas breathed.

10:20. Critical flicker frequency ten-years posttopectomy in relation to superior and orbital excisions.  
 HYMAN KORIN, *Rockland State Hospital, New York*.

Critical flicker frequency (CFF) thresholds of 30 schizophrenic patients with specific frontal lobe excisions (18 superior, 12 orbital) were compared ten-years postoperation with those of 25 nonoperated controls. Although operated subjects reported lower CFF values, only superiors differed significantly from controls. Data were compared with: convulsive seizures since operation (observed in 67% of superiors, 13% of orbitals); abnormalities in EEG records (more frequent among superiors); and decrements in psychometric tests (greater among superiors). The results, which are in contrast to earlier reports, indicate that site of lesion, abnormal cortical activity, and time interval are related to CFF decrement following topectomy.

10:30. CFF and retinal illuminance for foveal stimuli differing in spectral energy distribution.  
 AARON HYMAN, *Wright Air Development Center*.

The study was undertaken to determine if systematic differences in the shape of the CFF vs. retinal illuminance function would occur for foveal stimuli comprised of different additive mixtures of a red and a green primary. The stimulus was a 52-minute-of-arc circular target presented against a dark background. At the lower retinal illuminances the functions appeared to superimpose. At the higher illuminances, a systematic separation of the curves occurred, the CFF increasing as the relative intensity of the green component in the red-green mixture increased. The data suggest that CFF depends on the response of a multi-component system.

**Divisions 3 and 5. Symposium: Applications of Computers to Psychological Problems**

10:00-11:50. Hall of Mirrors, Netherland Hilton

C. J. BURKE, *Indiana University*, Chairman

**Participants:**

HAROLD BECHTOLDT, *Iowa State University*. Factor analysis computations.

PHILIP H. DUBOIS, *Washington University*. Analytically meaningful routines in multivariate regression analysis.

RICHARD B. MILLWARD, *Indiana University*. Analysis of variance routines.

DAVID G. MCCONNELL, *Ohio State University*. Problems in learning theory.

**Division 10. Studies in Esthetics**

10:00-11:50. Parlors 8 and 9, Sheraton-Gibson

CLAIR E. HUBERT, *University of Cincinnati*, Chairman

10:00. Art immoral and immortal. W. G. ELIASBERG AND I. R. STUART, *Hunter College*.

An art work's prosperity lies in the mind of him that sees it, never in the mind of him that makes it. This modification of Shakespeare on jests has emerged as the result of experiments on the perception of works of art. A correlation was found between the scores on the California F Scale and the reaction to Chasbas' September Morn, Modigliani's Reclining Nude, among others. Eliasberg's Art Criterion (EAC), based on Freud's observation of the gradual prevalence in the sexual development of the child of the erogenic zones, was confirmed: The rigid personalities were more inclined to judge indecent any emphasis on those parts of the body. The low F scorers, contrariwise, stressed the impression of the

whole. Judgments by authorities, auction prices paid, and public acceptance did not change the subjects' previous statements.

10:25. Preference for combinations of objects. JAN EINDHOVEN AND FRANCIS J. PILGRIM, *Quartermaster Food and Container Institute for the Armed Forces*.

When objects interact psychologically, preferences for pairs of objects ordinarily must be evaluated in terms of the whole combination. This questionnaire study of attitudes of 5,000 Army enlisted personnel towards 250 combinations of food names and towards the food components singly describes a method of economically testing numerous hypotheses of principles of combinations. Results from two different scales were subjected to analysis of variance to determine the degree of interaction between food classes. The scales differed in discriminating combination effects. Combination and individual component ratings were analyzed by multiple regression. Principles of interaction were tested by means of orthogonal contrasts.

10:50. Personality correlates of preference for abstract paintings. ROBERT H. KNAPP AND SAMUEL GREEN, *Wesleyan University*.

From an extensive collection of kodachrome slides of modern abstract paintings, 40 were selected for a test of aesthetic preference. A factor analysis revealed five clearly identified factors. For 110 subjects factorial scores were computed and these in turn correlated with scores on the Minnesota Multiphasic Personality Inventory, the Strong Vocational Inventory, and the Allport-Vernon Study of Values. Each of the five factor scales were shown to be meaningfully and independently correlated with one or more of the test scales enumerated above.

11:15. The psychological appeal of the Cinderella theme. MARY JEFFERY COLLIER, *Louisiana State University*.

32 college women whose favorite childhood story was *Cinderella* attributed the story's childhood appeal to its generally wish fulfilling character, the romantic love theme, the heroine's triumph over stepmother and stepsisters, her attractiveness enhanced through the fairy godmother's magic power, and her eventual mastery of self and environment. As adults, these women found the story less attractive except for presentation to children; the story's literary merits and moral truths were stressed relatively more than the magical, wish fulfilling, happily triumphant, childhood features. These data are discussed in the light of

pertinent speculations by Friedlander, Peller, Bonaparte, Kris, and others.

## Division 2. Symposium: Faculty Attitudes Toward Instructional Television and Their Role in its Future

11:00-12:50. Parlors 4 and 5, Sheraton-Gibson

RICHARD I. EVANS, *University of Houston*, Chairman

### Participants:

RICHARD I. EVANS, *University of Houston*. The importance of considering faculty attitudes toward instructional television.

JOSEPH GROSSLIGHT, *Pennsylvania State University*. The threat and adaptation components of faculty attitudes toward televised instruction.

JOSEPH KANNER, *Audio-Visual Applications Office, Department of the Army*. Some general observations on faculty attitudes toward television instruction.

HIDEYA KUMATA, *Michigan State University*. Research trends concerning faculty attitudes toward instructional television.

## Division 3. Human Motivation I

11:00-11:50. Parlors N and O, Netherland Hilton

LEE W. GREGG, *Carnegie Institute of Technology*, Chairman

11:00. Probability learning in children as a function of incentive conditions and probability of reinforcement. MORTON W. WEIR AND HAROLD W. STEVENSON, *University of Texas*.

Children were trained under a high and low incentive condition with 50% reinforcement of one of three responses. At the midpoint of training incentive and/or the probability of reinforcement were changed for some subjects. Incentives of high value resulted in poorer performance than incentives of low value except when both incentive and probability of reinforcement were changed. Greater variability of response was found with low than with high probabilities of reinforcement. Significant changes in variability of response followed a change in either probability of reinforcement or incentive condition.

11:10. Ego-involvement: As a stimulus, as a response, and its relationship to level of aspiration.

EVA DREIKURS FERGUSON, *Craig House, Pittsburgh*.

To help systematize the chaotic state of the ego-involvement variable, an ego-involvement response measure (E-I<sub>r</sub>) was sought. E-I<sub>r</sub> was hypothesized to

be related to but functionally different from level of aspiration (LA). A  $2 \times 2 \times 2$  factorial design utilized high and low ego-involving instructions ( $E-I_h$ ), success and failure, LA and  $E-I_r$ . The data showed: (a)  $E-I_r$  was reliable; (b) as hypothesized, LA, unlike  $E-I_r$ , was very sensitive to performance; (c)  $E-I_h$ , unexpectedly, yielded no significant effects. A second experiment duplicated these results. The current use of  $E-I_h$ , at least with nonvolunteer college students, is thus even more questionable than had been initially supposed.

11:20. Conditioned GSR in perceptual disparity situations. W. W. GRINGS, W. F. DOSSETT, AND R. HONNARD, *University of Southern California*.

Two experiments tested the strength of a conditioned autonomic response in situations where the CS was followed by a reinforcing stimulus different from the original UCS. The GSR was conditioned to a visual cue by pairing with a noxious stimulus. Then on test trials the cue was followed by a noxious stimulus differing in quality or intensity from the UCS. Both experiments manipulate direction and magnitude aspects of test stimulus discrepancy. One concentrated on a single stimulus dimension (tone intensity); the other varied stimulus modalities (shock, tone, light). GSR increased with discrepancy in an upward direction (stimulus stronger than anticipated) and with greater magnitudes of discrepancy.

11:30. A comparison between correction and non-correction methods in drive discrimination. HERMAN MORRIS AND NORMA F. BESCH, *Columbus Psychiatric Institute and Hospital, Ohio*.

The hypothesis that the use of the correction method in drive discrimination experiments contributes to the slow learning found in these situations was supported. A T maze was used for the training of 30 rats in a hunger-thirst discrimination for a social reward. No learning was found for the animals of the correction group which were allowed to retrace to the reward side after an incorrect response. The noncorrection animals, which were detained in the nonreward side after an incorrect choice, performed significantly better than chance in the last 24 days of the 60-day experimental period.

#### Division 9. Symposium: Should Social Scientists Play a Role in Guiding Legal Processes?

11:00-12:50. Ballroom, Sinton

JULIUS WISHNER, *University of Pennsylvania*,  
Chairman

Participants: KENNETH B. CLARK, *City College of New York*; FRANK C. J. MCGURK, *Villanova University*; WILL MASLOW, *American Jewish Congress*; AND WILLIAM B. BALL, *Villanova University*.

#### Division 9 Corresponding Group on International Relations. Workshop and Open Discussion Meeting

11:00-11:50. Parlor 5, Sinton

DEAN G. PRUITT, *University of Michigan*, Chairman

#### Division 12. Special Psychological Conditions

11:00-12:50. Parlor G, Netherland Hilton

JOHN J. BROWNFAIN, *VA Hospital, Dearborn, Michigan*, Chairman

11:00. Some characteristics of adult daydreaming. VIVIAN G. MCCRAVEN AND JEROME L. SINGER, *Teachers College, Columbia University*.

During a study of fantasy and imagination, a detailed questionnaire concerning daydreaming was administered to 240 university students. Internal consistency proved satisfactory. High percentages of subjects reported daydreaming in "fairly clear pictures" daily, usually before sleep. In addition to desires for greater personal effectiveness, a daydream of very high frequency was: "I imagine myself clasped in the arms of a warm loving person who satisfies all my needs." No significant differences in total fantasy emerged for sex, rural-urban, educational, or family size breakdowns. Among subcultural groups, Jewish and Negro subjects showed highest fantasy scores, Anglo-Saxons lowest. Theoretical implications are discussed.

11:15. Correlates of daydreaming: The dimension of self-awareness. JEROME L. SINGER AND ROSALEA A. SCHONBAR, *Teachers College, Columbia University*.

As one phase of a study of the function of daydreaming in personality, a questionnaire measuring frequency of occurrence of a variety of daydreams was devised. Specific hypotheses bore on relationships between fantasy and parental identification. For a group of 45 female graduate students, the fantasy score correlated positively with frequency of nocturnal dreams, Welsh's Anxiety Scale, Social Introversion, Creativity of spontaneous story material, and need Achievement; negatively with Welsh's Repression Scale. High fantasy subjects showed greater maternal or feminine identifications. Results suggested the presence of a self-awareness dimension related to closer identification with mother than father.

- 11:30. Visual perception of the vertical by alcoholics. WILLARD BAILEY, FRANK E. HUSTMYER, AND ALFRED B. KRISTOFFERSON, *Longview State Hospital and University of Cincinnati*.

Following an observation by Witkin, experiments were performed to measure judgment of verticality by alcoholics. The standard rod-and-frame apparatus was employed under three conditions: body and frame tilted together, tilted in opposite directions, and frame tilted only. Three groups of age-matched males were investigated: normals, volunteers from Alcoholics Anonymous, and hospitalized patients with chronic brain syndrome, alcohol. Under all three conditions both alcoholic and CBS subjects exhibited greater error than normals. For no one condition were CBS significantly greater than alcoholics, although all differences were in that direction and the difference was significant for total error score.

- 11:45. Galvanic skin response correlates of different modes of experiencing. EUGENE T. GENDLIN AND JEROME I. BERLIN, *University of Wisconsin*.

This study partially tests a theory predicting differential GSR response patterns to different experiential modes. Resultant differentiations identify variables which often affect experiments. Seven instructions led to continuous reference to experiencing or to discontinuity. Subjects were instructed to refer silently to a specific feeling or to listen, speak, or attend to several disconnected elements. Analysis of the concomitant GSR responses yielded *F*s significant on the .01 level. Duncan range tests revealed differences between individual response periods. Continuous reference to experiencing seems to have different autonomic correlates than discontinuous reference. The implications of these findings for clinical research are discussed.

- 12:00. The relationship between biochemical and psychological changes in hypnotically induced anxiety. EUGENE E. LEVITT AND HAROLD PERSKY, *Indiana University Medical Center*.

Plasma hydrocortisone levels and Rorschachs were obtained from a group of normal subjects in hypnosis and in hypnotically induced anxiety. Rank order correlations between difference scores for the blood levels and quantifiable Rorschach factors were computed. Three factors—*P*, *F* + % and Pure *C*—were significantly related to change in blood level. However, these did not change significantly of themselves in the anxiety state. Five other factors—*W*, *F* +, Sum *Y*, *M* —, and reaction time—did change significantly, though none of these was related to blood level change. The following hypothesis is suggested: the five factors which changed with anxiety are indicators of neurotic withdrawal, while the factors related to

blood level change are indicators of a psychotic ego dissolution.

- 12:15. Serial measurement of the psychological effects of extended sleep deprivation and constant observation: A case report. J. WESLEY SANDERSON, *Bakersfield College*.

Intensive psychological study of an individual undergoing prolonged sleep deprivation (226 hours) proved to be a valuable method for the study of progressive stages of reaction to stress which throws some light on the problems of the space age. Human companionship of familiar trusted persons and various secondary gains were important. Ritalin and hypnosis were very helpful in the latter half of the experiment. Abnormal mental trends fluctuated with the emotional state more than with the physical state. Psychological defense mechanisms were progressively disintegrated, giving a more normal personality picture in the early period of counterreaction to stress.

- 12:30. Behavioral changes in psychiatric patients following partial sensory deprivations: A pilot study. RICHARD N. CARRERA, ROBERT G. GIBBY, AND THEODORE F. HENRICH, *VA Hospital, Richmond, Virginia*.

19 male veteran NP patients were subjected to several hours of auditory and visual stimulus deprivation. They were interviewed the day before, the day after, and a week after deprivation and their behavior rated on a 20-item scale to determine short-term and long-term changes. Significant short-term changes were less anxiety, evasiveness, depression, apathy, withdrawal, suspiciousness, and somatic complaints, but more hostility and disorganization of thought. Significant long-term changes included less anxiety, evasiveness, uncooperativeness, withdrawal, depression, and thought disorganization, but more vagueness about future hospital goals. Most changes were in the direction of less psychopathology. Potential therapeutic applications are suggested.

## Division 12. Symposium: Current Status of Theories of Emotion

- 11:00–12:50. Pavillon Caprice, Netherland Hilton  
ROBERT PLUTCHIK, *Hofstra College*, Chairman

### Participants:

- NINA BULL, *New York State Psychiatric Institute*. The attitude theory of emotion.  
ROBERT LEEPER, *University of Oregon*. The motivational theory of emotion.  
MORTIMER OSTOW, *Riverdale, New York*. The psychoanalytic theory of emotion.  
ROBERT PLUTCHIK, *Hofstra College*. The multifactor-analytic theory of emotion.

**Division 12. Symposium: Psychological Factors in Response to Treatment of Physical Illness: Approach through Cooperative Research**

11:00-12:50. Roof Garden, Sheraton-Gibson

CLAIRE M. VERNIER, *VA Hospital, Baltimore, Maryland*, Chairman

**Participants:**

ASENATH PETRIE, *Harvard Medical School*. How much pain is enough?

BERNARD KUTNER, *Albert Einstein College of Medicine, Yeshiva University*. A conceptual model for the analysis of physician-patient relationships.

CLINTON C. BROWN, *VA Hospital, Perry Point, Maryland*. The patient animal.

JOHN W. STAFFORD, *Catholic University of America*. Problems of a theoretical model in cooperative research.

**Division 14. Symposium: Advertising and Promotional Practices for Business and Industrial Psychologists**

11:00-12:50. Rookwood Room, Sinton

JOSEPH E. MOORE, *Georgia Institute of Technology*, Chairman

**Participants:**

BRUCE V. MOORE, *APA Education and Training Board*. Questionable practices which have come to the attention of the APA Committee on Scientific and Professional Ethics and Conduct.

WAYNE H. HOLTZMAN, *University of Texas*. Some problems of defining ethical behavior as viewed by a member of the APA Committee on Ethical Standards of Psychologists.

**Discussants:** RAYMOND A. KATZELL, *New York University*; ROBERT N. MCMURRY, *McMurry Hamstra and Company*; AND FLOYD L. RUCH, *University of Southern California*.

**Division 17. Contributed Papers III**

11:00-11:50. Crystal Room, Sinton

ALICE GUSTAV, *New York University*, Chairman

11:00. An investigation of personality effects related to L-I-D response patterns on the Strong Vocational Interest Blank. JAMES P. ARMATAS AND E. GORDON COLLISTER, *VA Center, Wadsworth, and University of Kansas*.

The study attempted to determine the feasibility of interpreting response patterns as a way of increasing the traditional information yield of the men's SVIB. Three tentative hypothetical personality models were formulated which were postulated to be characteristic

of three distinct modes of response preference to the SVIB, i.e., with a predominance of like, indifferent, or dislike responses. Three groups of college subjects representing L, I, and D modes of responding to the SVIB were investigated in terms of hypothesized responses to a variety of situational and personality test variables. From the results it appears that the interpretation of SVIB response patterns is worthy of further investigation.

11:10. Double-entry expectancy tables and utilization of validity information. ALEXANDER G. WESMAN, *Psychological Corporation, New York*.

A device which lends itself especially well for revealing the predictive validity of test scores and school grades in combination, and for communicating his chances of success to the student, is a double-entry expectancy table. A set of such tables has been prepared for the entering class of a large midwestern university, utilizing rank in high school and scores on the College Qualification Tests simultaneously. One such illustrative table shows how estimates of probable superior performance change from one in four (based on tests) and three in ten (based on high school rank) to one in two when both kinds of information are taken into account.

11:20. A study of experiential, motivational, and personality factors related to vocational decision versus indecision. JAMES B. LYON, *Stanford University*.

Criterion groups of 82 vocationally decided and 87 undecided college freshman men were identified on the basis of the consistency of their self-reported plans. Hypothesized differences between the groups were investigated using several self-rating scales, the Strong VIB, and the MMPI. The decided subjects tended to rate themselves higher on familiarity with father's occupation and on identification with father. They were significantly more career motivated, less anxious and maladjusted, and more inclined to show scientific-technical than aesthetic-expressive interest patterns. There were no differences in activities participation, summer work experience, or definiteness of measured interests.

11:30. Dimensions of job perceptions. GEORGE G. GONYEA, *University of Texas*.

Job perceptions and "occupational stereotypes" play leading roles in many current theories of occupational choice. However, little is known of how people perceive jobs. Moreover, it appears likely that the occupation-choosing individual structures his perception of the world of work in accordance with his needs. This paper reports an application of Andrews' A-

technique to the problem of job perceptions. This was part of a larger study designed to explore some of the relationships among vocational preferences, occupational choice, and job perceptions. 12 relatively independent dimensions were discovered by which 100 male college freshmen perceived 30 selected occupations. The interpretation of these dimensions, with implications for further research, is discussed.

### MONDAY AFTERNOON, SEPTEMBER 7

#### Division 3. Perception

12:00-12:50. Hall of Mirrors, Netherland Hilton

AARON HYMAN, *Wright Air Development Center*,  
Chairman

12:00. Ratio discrimination of random sequential stimuli. DWIGHT E. ERLICK, *Wright Air Development Center*.

This study concerns accuracy of discriminating the more frequent of two "distinct" stimuli when they are presented at a fixed time interval in random order and at a rate too fast to permit counting. Subjects were required to indicate on a 10-cm. scale the proportion of time the more frequent stimulus occurred. Judgments were based on a series of 100 random stimuli, the two stimuli appearing in one of four ratios ranging between 1 and 1.33. The median proportion of correct judgments increased as the ratio between frequencies increased, and the actual ratios all tended to be overestimated.

12:10. Discrimination reaction time as a function of the number of alternatives and of the particular stimulus-response patterns. ROBERT SEIBEL, *IBM Research Center, Yorktown Heights, New York*.

Five keys, one under each finger of the right hand, were paired with a highly compatible array of five lights. In response to the onset of one or more lights, the subject depressed, as quickly as possible, the corresponding key(s). Stimulus sequences consisted of variously defined subsets of the 31 possible patterns. Subsets varied in number of patterns and in particular patterns included. Each of four subjects gave a total of 22,000 reaction times, the last 2,000 of which were analyzed. RT was highly related to the particular pattern involved and independent of the number of patterns in the subset.

12:20. Form perception across sensory modalities. GEORGE M. KRAUTHAMER, *New York University College of Medicine*.

Studies of relations among different senses are important for theories of perception and brain function. The present experiment explored "nonverbal" transfer of form perception between vision and touch under two different conditions of stimulation. Series of patterns were presented successively (traced by stylus or pinpoint light) or simultaneously (as drawings or metal dies) in tasks requiring identification of visual equivalents of tactile patterns and vice versa. Marked crossmodal transfer occurred between vision and touch, but the extent of transfer depended on conditions of stimulation and testing.

12:30. Some effects of sensory deprivation on the behavior of rhesus monkeys. CHARLES J. VAUGHAN, HARRY W. BRAUN, AND ROBERT A. PATTON, *University of Pittsburgh*.

Six rhesus monkeys were subjected to 108 hours of sensory deprivation, defined as being placed in a two-lever primate chair and introduced into a dark, anechoic chamber. In the chamber each lever pressed introduced a 0.1-sec. pulse of either 1,000 cycle 50 db. auditory or 4 ft.-candle visual stimulus. Light was the preferred stimulus. Typical behavior, in both operant rate determination and chamber phases, was in bursts of responding followed by hours of nonresponding. Each subject produced self-stimulation primarily by overeating and prolonged chewing. Vocalization was rare. Nystagmus was observed in 2/6 of the subjects but quickly disappeared.

#### Division 3. Psychophysiology of Drive

12:00-12:50. Parlors N and O, Netherland Hilton

GEORGE F. MAHL, *Yale University*, Chairman

12:00. Genetic factors in alcohol preference in laboratory mice. DAVID A. RODGERS AND GERALD E. MCCLEARN, *University of California, Berkeley*.

C57BL/Crgl mice (*Mus musculus*) showed marked preference for 10% ethyl alcohol solution over plain water. A/He/Crgl, A/Cal, BALB/c, and DBA/2 animals prefer water. For genetic analysis F1, F2, and backcross generations were derived from C57 and A/He strains. F1 and F2 alcohol consumption means were between the parent strain means. The means of the backcross groups were between the F1 mean and the mean of the respective parent strain to which the backcross was made.

12:10. Sexual behavior of descendants of Tryon's maze-bright and maze-dull male rats. RICHARD E. WHALEN, *Yale University*. (Sponsor, Frank A. Beach)

The sexual behavior of male rats of the S1 and S3 strains, descendants of Tryon's maze-bright and maze-

dull strains, was studied. These strains are known to differ in cortical cholinesterase level and on a number of different behavior tests. This study indicates that these inbred strains differ strikingly in sexual behavior. The S3 males ejaculate after less sexual stimulation than do S1 subjects, but resume mating sooner after ejaculation. Intromission latency is higher and "copulatory efficiency" lower for the S3 males than for the S1 males. The sexual behavior differences may be related to the strain differences in cholinesterase metabolism.

12:20. The effects of insulin on water intake. DONALD NOVIN, *Yale University*. (Sponsor, Neal E. Miller)

Rats on *ad lib*. food and water were given insulin and control injections through a permanent venous cannula. Insulin significantly increased water intake over the whole hour period ( $p < .01$ ) and before any eating occurred ( $p < .03$ ). In the same period its effects on food intake were slight and nonsignificant. The experiment indicates that insulin increased water intake independently of its effect on eating. The results are interpreted in terms of previous studies which showed that over-hydration causes increased drinking. A basic revision in theories of thirst seems to be required, and one possibility is discussed.

12:30. Learned factors controlling regulation of consummatory behavior. LEON S. OTIS AND MARK A. BERKLEY, *Johns Hopkins University*.

The degree to which 120 days (beginning with weaning) of prior lapping of water from either 3-mm. or 5-mm. diameter nipples influenced the number of laps occurring when half of the animals in each group was switched to the nontrained nipple was studied. Also studied was the resistance to extinction of non-reinforced lapping both shortly after the switched trials and approximately six months later after all subjects had drunk *ad libitum* from cans. The early experience had little or no effect on intake during the switched trials but had pronounced and persistent effects (that is, after the six months of drinking from cans) on extinction; the group trained on 3 mm. had the greatest resistance to extinction.

#### Division 5. Achievement Testing

12:00-12:50. Sheraton Room, Sheraton-Gibson  
ROBERT GLASER, *University of Pittsburgh*, Chairman

12:00. A preliminary evaluation of science telecasts.  
DAVID B. ORR AND ARTHUR A. LUMSDAINE, *American Institute for Research, Washington, D. C., and Pittsburgh, Pennsylvania*.

This research was designed to develop and try out preliminary procedures for assessing the effects of

televised, elementary science lessons in fostering both informational objectives and especially noninformational objectives such as scientific interest, motivation, curiosity, and appreciation of scientific method. The procedures were designed to provide a foundation for later, more sophisticated techniques for measuring such program outcomes. Interview, checklist, and questionnaire data were obtained from pupils, parents, teachers, and administrators and were analyzed. Results provided valuable guidelines for ongoing program improvement as well as promising leads for developing more systematic, standardizable measures of telecasts' effects on pupil behaviors.

12:10. The use of cloze procedure in measuring foreign language proficiency. AARON S. CARTON AND JOHN B. CARROLL, *Harvard University*.

Tests requiring restoration of deleted words or letters (Taylor's "cloze procedure") were given to native speakers and to 271 high school students in second, third, fourth, or fifth year of language study. Reliability was relatively low. The tests discriminated between native speakers and high school students, but not very well between the respective years of language study. Correlations with teachers' grades, CEEB foreign language scores, intelligence tests, and foreign language aptitude tests indicated that cloze test scores were unduly influenced by some ability not associated with foreign language achievement. Correlations between word-cloze and letter-cloze tests were low.

12:20. Mean score changes on the Graduate Record Examinations Area Tests for college students tested three times in a four-year period. BARBARA PITCHER AND GERALD V. LANNHOLM, *Educational Testing Service, Princeton, New Jersey*.

An analysis was made of mean score changes on the Graduate Record Examinations Area Tests for college students tested three times in a four-year period at three colleges typical of Area Tests users. Three broad major field groups, categorized according to the areas of the tests, made significant mean gains. The social science and natural science major field groups gained more on the tests in their major areas than did the nonmajors. The natural science majors had consistently higher means on the Social Science Test as well as on the Natural Science Test, regardless of amount of gain.

12:30. Marked sense versus punch pack cards in administering, scoring, and analyzing tests.  
CASIMER S. WINIEWICZ AND CHARLES J. MACALUSO, *United States Naval Examining Center, Great Lakes, Illinois*.

The purpose of this experiment was to obtain the examinee's reaction to taking an examination under

either of the two experimental card methods as compared with the conventional IBM type answer sheet. It was also important to ascertain empirically the time required to edit these two cards and record the amount of error inherent in both systems. The conclusions are based upon 778 candidates competing for advancement to Navy Petty Officer status at three different levels, from 46 different naval occupations representing the entire spectrum of intelligence. 75% preferred the new system, and, in addition, the punch pack card process proved definitely superior.

#### Division 5 and Psychometric Society. Scaling

12:00-12:50. Parlor 7, Sheraton-Gibson

ROBERT P. ABELSON, *Yale University*, Chairman

12:00. Defining marginal utility functions by means of discriminant function analysis. PURNELL H. BENSON, *Madison, New Jersey*.

A procedure is described for assigning scale values to marginal utilities at the same time as a functional relationship between marginal utility and amount of food consumed is fitted. The rationale of the discriminant function is used, which seeks to minimize errors in predicting attributes from quantitative variables. According to marginal utility theory the consumer divides his purchases in such a way that the marginal utilities with respect to cost are equal. Constants are determined for utility functions which minimize the error variance in applying the relationship of equal marginal utilities at points of allocation of money for purchases.

12:10. A multidimensional analogue of the Law of Comparative Judgment. ROBERT HEFNER, *University of Michigan*.

A multidimensional analogue of the Law of Comparative Judgment was developed, based upon replicated, inconsistent judgments of whether two stimuli are "same" or "different." It was proved that inter-stimulus distances are distributed as noncentral chi square if stimuli have  $r$ -variate normal distributions. An iterative solution for the interpoint distances was developed which requires tables of noncentral chi square. The method was applied to repeated judgments by two subjects concerning Munsell colors. The results generally correspond to results of previous studies of the same colors. Some qualitative differences in the colors were apparently produced by the tachistoscopic method of presentation used.

12:20. A ratio scale for utility. EMIR H. SHUFORD, LYLE V. JONES, AND R. DARRELL BOCK, *University of North Carolina*.

A new paired comparisons method, based upon choices between lotteries, is developed for the measurement of utilities of objects with respect to a rational origin. The method was applied to data from 141 subjects to estimate utilities of four birthday gifts which also had been used in an earlier experiment. A comparison of the results of the two experiments indicates that: both methods scale the objects with respect to the same rational origin and unit of measurement, the utility of receiving nothing is equal to zero, and subjects' choices are those which maximize expected utility.

12:30. Psychophysical law and scaling models. CARL HELM, SAMUEL MESSICK, AND LEDYARD TUCKER, *Educational Testing Service*.

Two broad classes of psychophysical scaling techniques, ratio methods and category methods, have been used to describe several psychological dimensions. When these methods are compared on the same perceptual continua, they are frequently found to be curvilinearly related. This curvilinearity is usually attributed to systematic distortions introduced by one or both procedures. The present paper attempts a different solution to this problem of curvilinearity by presenting a theoretical rationale for explaining differences between the scaling procedures and a method of analysis for rectifying the obtained curvilinearities.

#### Division 3. Animal Reinforcement

1:00-1:50. Parlors N and O, Netherland Hilton

NORMAN GUTTMAN, *Duke University*,  
Chairman

1:00. The loci of reinforcement. GEORGE COLLIER, *University of Missouri*.

The joint effect of concentration and volume of sucrose, inter-reinforcement interval, and duration of session on bar pressing in the Skinner box is examined. Initial rate is an increasing function of concentration. The slope of the rate-concentration function is an increasing function of volume and a decreasing one of inter-reinforcement interval. The difference between initial and final rates is a function of all variables, the largest decrements occurring for highest concentration, largest volume, shortest interval, and greatest length of session. It is concluded that initial rate is a function of sensory factors (taste) and long-term post-ingestive effects (% body weight). The within session decrement in rate is a function of immediate post-ingestive effects (osmotic pressure) and habituation of ingestive responses.

- 1:10. The effect of training with mild punishment on resistance to strong punishment. EILEEN KARSEN KAGAN, *Yale University*. (Sponsor, Neal E. Miller)

Male rats were trained, under hunger drive, to run down an 8-foot straight alley to secure food. Experimental animals then received a number of mild electric shocks with the food reward at the goal, while control animals had an equal number of trials with food alone. Then all animals were given a strong shock. Although the experimental group had been running slower than the control at the end of mild-shock training, after strong shocks they ran reliably faster; their resistance to the disrupting effects of shock had been increased. These results are consistent with those obtained by Miller and Faust.

- 1:20. The effects of direct goal-box placement feedings on subsequent instrumental behavior. RICHARD C. GONZALEZ AND LEONARD DIAMOND, *University of Maryland*.

In a situation where rats are given unrewarded runs down a runway to an empty goal-box and then placed directly into a goal-box and fed, Spence's incentive motivation theory leads to the prediction that the similarity between the fed-in box cues and those in the runway will determine the increase in subsequent speed of running. A cognitive orientation suggests that the critical relationship determining test trial running speed is the similarity of the empty to the fed-in goal box. These contrasting viewpoints were tested in this experiment. The results support the cognitive position.

- 1:30. The control of wheel running by reinforcement and extinction. L. R. GOLLUB, *Harvard University*.

The effects of reinforcement and extinction on the frequency of running in a wheel, a response which has a high unconditioned frequency, are comparable to the effects found on other operant behaviors. It was found that the frequency of running was increased by food reinforcement, and the pattern of running was controlled by the schedule of reinforcement. Extinguishing the food control of running led to a greatly reduced rate, compared with the unconditioned frequency. Rates which were lower than unconditioned values were produced also by requiring that an excessive distance be run for each food pellet.

### Division 3. The Central Nervous System

1:00-2:50. Parlor G, Netherland Hilton

ALLAN F. MIRSKY, *National Institute of Mental Health*, Chairman

- 1:00. The response as a variable in interocular transfer. ROBERT A. McCLEARY, *University of Michigan*.

It is possible to demonstrate transfer in the fish by using either an avoidance response or a conditioned, autonomic response. When a conditioned, autonomic response is employed, transfer occurs even though the untrained eye is covered during training. This is not the case, however, when transfer is indicated through the use of an avoidance response. This difference has implications for the mechanism of interocular transfer, especially in the case of the so-called "split brain cat."

- 1:10. Reinforcing properties of arousal. STEPHEN E. GLICKMAN, *Northwestern University*. (Sponsor, Winfred F. Hill)

Rats with electrodes implanted in their nonspecific arousal systems were tested in a self-stimulation situation. Electrical stimulation delivered to some portions of the arousal system was found to constitute an effective reward, although the magnitude of the reward effects varied greatly from one animal to the next. Stimulation was not rewarding in other parts of the arousal system. Further analysis of the results indicated that differences in locus of stimulation could best account for these findings. This necessitated the postulation of a considerable degree of functional localization within the nonspecific arousal system.

- 1:20. Effect of brain stem lesions on conditioned responses of cats. EDWARD C. BECK, ROBERT W. DOTY, AND KENNETH A. KOOL, *University of Utah College of Medicine*.

With tone as a CS and shock to a hindlimb as US, flexion and respiratory CRs were observed in six cats having medial diencephalic and mesencephalic lesions. With mesencephalic lesions essentially transecting the ascending reticular system, flexion CRs were regained in 150 to 400 trials. However, with medial diencephalic lesions located in region of mammillary bodies, field H (of Forel), centre median, and the habenulopeduncular tract, return of CRs was greatly retarded or obstructed (800-1,300 trials). While it is concluded that mesencephalic systems are not absolutely essential to this type of conditioning, it appears that central thalamic nuclei are likely to involve critical neural mechanisms.

- 1:30. A comparative study of voluntary ocular movements in intact cats. ANN M. RICHARDSON, *University of California, Los Angeles*.

Some experiments designed to elucidate oculomotor pathways depend upon the analysis of conjugate ocular movements electrically elicited in the feline

*encéphale isolé* preparation. The characteristics of such movements differ from those of voluntary human ocular movements. To determine whether the differences were due to species or preparation, a method was developed to study voluntary ocular movements in intact cats. Six cats were trained to execute eye movements of varied distance. From analysis of filmed movements, their characteristics were found to resemble more closely those of human voluntary ocular movements than those induced by electrical stimulation in the feline *encéphale isolé*.

1:40. A visual test of hypothalamic excitability.

SOLOMON D. KAPLAN, *University of Kansas Medical Center*.

Two groups of nine hypothalamic sympathetic hyper- and hyporeactors were selected from 83 convicts by the criterion of a consistent hyper- or hypotensive blood pressure reaction to each of three Funkenstein mechohyl tests. Then tests of differential spectral sensitization (DSS) measured the change of sensitivity differential between hues of short vs. long wavelengths following neostigmine bromide. The mechohyl test hyporeactors had a parasympathetic balance of DSS; and, despite the parasympathomimetic neostigmine, the hyperreactors had a sympathetic balance. Accessory sedatives, sodium amylal and chlorpromazine, each restored the appropriate autonomic balance of DSS, but aggravated the mechohyl test imbalances.

1:50. Some effects of striatal lesions on instrumental behavior in cats. ROBERT L. THOMPSON, CHRISTIAN A. HOVDE, AND FRED A. METTLER, *Columbia University*.

Bilateral lesions involving 10-90% of the heads of the caudate nuclei were found to impair the retention of several conditioned patterns of food-reinforced instrumental behavior in cats. Performances in a modified runway situation, T maze, and in free operant lever pressing under conditions of continuous reinforcement, 2-minute fixed interval reinforcement, and 2-minute variable interval reinforcement were studied. Performances were most severely affected when bilateral lesion size exceeded about 35%. Preoperative performance levels were not recoverable with lesions in excess of about 50%. Control lesions involved the lateral gyri and underlying cortex.

2:00. Role of the auditory cortex in frequency stimulus generalization. RICHARD F. THOMPSON, *University of Wisconsin*. (Sponsor, W. J. Brogden)

Although frequency discrimination is still possible after removal of auditory cortex in cat, response inhibition to negative frequency stimuli cannot be relearned. Since response inhibition also appears basic

to stimulus generalization, the effects of auditory lesions on generalization were studied. In normals, trained to the 90% response level to a 250 cps tone, generalization decreased with increased frequency, no generalization occurring at 2,000 cps or higher tones. Animals with bilateral removal of all known auditory cortex responded equally to all test frequencies (250 cps to 8,000 cps, in octaves), thus showing complete absolute and relative generalization.

2:10. The effect of orbitofrontal cortical ablation on conditioned avoidance in cat. C. NAUMAN AND R. Y. MOORE, *University of Chicago*.

12 cats learned an avoidance habit in a conventional double-grill box, 10 to an auditory CS and 2 to a visual CS. 7 animals, including those trained to light, were then subjected to bilateral ablation of orbitofrontal cortex (as defined by Rose and Woolsey). 5 received bilateral isocortical control operations. Postoperatively 5 orbitofrontal animals failed to show retention of the avoidance habit, but could be retrained in approximately the same number of trials as were required for original learning. 2 animals with subtotal orbitofrontal lesions and all control animals retained the avoidance habit. All lesions were analyzed histologically.

2:20. Alternation in normal and frontal operated monkeys as a function of response and outcome of the previous trial. WILLIAM A. WILSON, JR., *University of Colorado*.

Four frontal and four normal monkeys received 800 trials each, within an alternation situation. For different trial-blocks, either a correction or noncorrection procedure determined the placement of reward, and either a contingent or noncontingent procedure determined the information available after a response. Neither of these variables affected the alternation scores; normals always alternated more than frontals. Pair-wise analysis of trials shows that for both groups alternation is more likely after alternation on the previous trial. While normals alternate more when they have not been rewarded on the previous trial, this factor does not affect the behavior of frontals.

Divisions 3 and 12. Symposium: Learning Studies in Mental Retardation

1:00-2:50. Pavillon Caprice, Netherland Hilton

WILLIAM SLOAN, *State Colony and Training School*, Chairman

Participants:

GORDON N. CANTOR, *George Peabody College for Teachers*. Some Peabody learning studies and the issue of comparative research in mental retardation.

NORMAN ELLIS, *State Colony and Training School*.  
Free operant behavior in mental defectives.

LAWRENCE M. STOLUROW, *University of Illinois*.  
Cue utilization by brain damaged, mentally retarded subjects.

DAVID ZEAMAN, *University of Connecticut*. Some  
properties of discrimination learning in retardates.

Discussants: MARION BUNCH, *Washington University*; AND GEORGE WISCHNER, *University of Pittsburgh*.

### Division 5. Aptitude Testing

1:00-1:50. Parlor 7, Sheraton-Gibson

DONALD E. BAIER, *General Electric Company*,  
Chairman

1:00. Validation and uniqueness as applied to multifactor aptitude test batteries. JOHN C. FLANAGAN, *American Institute for Research*.

Multifactor aptitude test batteries are needed which will predict a variety of occupational performances. This paper discusses procedures for estimating the uniqueness of each of the tests in the battery and procedures for estimating validity coefficients on the basis of follow-up studies. A battery of 14 tests was administered to 1,650 high school seniors. These students were followed one and five years after graduation. Validity coefficients are reported for 20 occupational fields. The uniqueness of each of the tests in the battery was calculated by obtaining the multiple correlation of each test with a composite composed of the remaining tests.

1:10. The multilevel experiment: I. A study of a two-level test system for the College Board Scholastic Aptitude Test. WILLIAM H. ANGOFF AND EDITH M. HUDDLESTON, *Educational Testing Service and United States Office of Education*.

Parallel studies were conducted for the Verbal and Mathematical sections of the Scholastic Aptitude Test to determine whether a single test appropriate for the entire range of College Board candidates would be as effective as two peaked tests, optimally appropriate for different ranges of ability and together encompassing the entire range. Results indicated that the peaked tests were more reliable in the regions of ability where they were specifically pitched, but that beyond these regions the broad-range tests were more reliable. It was concluded from this and other studies that, although slightly more reliable scores would result in general from the use of peaked tests, the advantage to the College Board would not be sufficient to warrant changing to the administratively more complex two-level test system.

1:20. The multilevel experiment: II. Comparative validities of broad-range and narrow-range tests. MARJORIE OLSEN, *Educational Testing Service*.

When the students participating in the experimental testing had completed their first year of college work, validity studies were carried out for 24 student groups in 19 colleges. On the basis of the reliability studies, it was estimated that validity differences would not amount to more than .01 or .02 on the average. The empirical results were in close agreement with this estimate. Average validities for predicting first year college average grades were .41 for both the broad- and narrow-range Verbal tests, and .36 and .37 respectively for the broad- and narrow-range Mathematical tests.

1:30. Differences in Strong Vocational Interest Blank patterns among three groups of medical college applicants. ALICE L. PALUBINSKAS AND LORRAINE D. EYDE, *Tufts University*.

The Strong Vocational Interest Blanks of 265 applicants to a medical college were analyzed to determine the discrimination among accepted-attending, accepted-withdrew, and rejected applicants. The medical college admitted or rejected applicants without knowledge of the SVIB scores. All scales of the SVIB were analyzed for the three applicant classifications. Both accepted categories scored higher on: physician, musician, city school superintendent, and OL. Rejected applicants were higher on persuasive-sales. Accepted-withdrew were highest on organizational interests and persuasive-intellectual. Accepted-attending were highest on technical interests. One-third of the SVIB scores showed significant differences.

### Division 5. Factor Analytic Studies II

1:00-1:50. Sheraton Room, Sheraton-Gibson

LOUIS L. MCQUITTY, *Michigan State University*,  
Chairman

1:00. An exploratory analysis of symbolic factors. P. R. MERRIFIELD AND J. P. GUILFORD, *University of Southern California*.

The organization of factor abilities into a "structure of intellect" leads to hypotheses regarding previously unconsidered factors. 30 tests have been administered to 240 Aviation Officer Candidates and Naval Air Cadets. The tests are hypothesized to measure ten previously discovered, parallel abilities and four abilities predicted by the "structure of intellect" but not yet isolated. Six of the previously known factors and all the newly predicted factors have to do with symbolic, or abstract, material. The other four factors deal with semantic material. Intercorrelations

have been computed. The results of the graphic, orthogonal rotation of centroid factors will be reported.

- 1:10. A factor analytic study of a situational type intellectual aptitude rating scale. ALVIN MARKS, P. R. MERRIFIELD, AND J. P. GUILFORD, *University of Southern California*.

This study developed a rating scale for assessing certain intellectual aptitudes thought to be related to military leadership of Marine officers. Each item described a military situation; each officer was rated by peers and superiors as to how well he could handle the situation. An item analysis of the 48-item rating scale disclosed that it could not predict personal status on the 11 intellectual factors as determined by objective tests. Two factor analyses were made of 12 rating variables including a rating for overall leadership. Factors from the superior ratings were interpreted as ruggedness, leadership, competence, and a halo factor. The same factors, plus an intellectual factor, described the peer ratings.

- 1:20. The prediction of complex tracking performance: Relationship between ability factors and performance at different stages of skill learning. JAMES F. PARKER, JR. AND EDWIN A. FLEISHMAN, *Psychological Research Associates, Inc. and Yale University*.

The pattern of abilities contributing to performance in a complex task was studied as practice continued and proficiency increased. 203 subjects were trained on a 3-coordinate compensatory tracking task in 17 half-hour sessions distributed over 1½ months. They were also administered 50 apparatus and printed measures of known factorial content. A factor analysis of these measures together with scores from different stages of learning on the tracking task was performed. Component learning curves are compared, predictions obtained from intratask measures and independent measures are presented, and implications for predicting high levels of skill proficiency are discussed.

- 1:30. The prediction of complex tracking performance: Factor analytic study of predictor measures. BENJAMIN FRUCHTER, JAMES F. PARKER, JR., AND EDWIN A. FLEISHMAN, *University of Texas, Psychological Research Associates, Inc., and Yale University*.

A comprehensive battery of 50 psychomotor and printed ability measures was administered to 203 college men. The purpose was to establish the factor content of these ability measures preliminary to the study of relationships with stages of learning a complex skill. The interrelationships among these meas-

ures were factor analyzed yielding 14 common factors identified as: spatial orientation, control precision, speed of arm movement, manual dexterity, reaction time, verbal knowledge, response orientation, arm-hand steadiness, perceptual speed, visualization, integration, mechanical experience, finger dexterity, and multilimb coordination. These abilities are defined in terms of the operations required, and implications for ability measurement are discussed.

#### Divisions 5 and 12. Symposium: The Impact of Computers on Psychological Research

1:00-2:50. Roof Garden, Sheraton-Gibson

HARRY H. HARMAN, *System Development Corporation*, Chairman

##### Participants:

WAYNE H. HOLTZMAN, *Hogg Foundation for Mental Health, Texas*. Can the computer supplant the clinician?

STEVEN G. VANDENBERG, *University of Michigan*. Medical diagnosis by computer: Recent attempts and outlook for the future.

HARRY F. SILBERMAN, *System Development Corporation*. The automation of teaching.

LEONARD UHR, *University of Michigan*. A psychologist looks at learning machines.

CHARLES WRIGLEY, *Michigan State University*. Where do we stand with computers: The 1959 prospect.

Discussants: FRANK J. FARESE, *International Business Machines Corporation*; AND PHILIP A. SMITH, *System Development Corporation*.

#### Division 9. Symposium: Intergroup Relations and Changing Neighborhoods

1:00-2:50. Ballroom, Sinton

DAVID J. KALLEN, *Baltimore Council of Social Agencies*, Chairman

##### Participants:

HARRY WALKER, *Howard University*. Intergroup relations and urban renewal.

GEORGE GRIER, *New York State Commission Against Discrimination*. The privately developed interracial community.

OSCAR COHEN, *Anti-Defamation League of B'nai B'rith*. The case for benign quotas.

Discussant: DAVID J. KALLEN, *Baltimore Council of Social Agencies*.

### Divisions 9 and 14. Symposium: Mass Communication and Social Responsibility: The Psychologist's Role

1:00-2:50. Rookwood Room, Sinton

MICHAEL AMRINE, *APA Central Office*, Chairman

#### Participants:

MELVILLE HATTWICK, *Continental Oil Company*. Principles and practices of effective communication in advertising.

A. R. ROOT, *Knox Reeves Advertising, Inc.* Social and economic effects of advertising.

BERTRAND KLASS, *Forbes Marketing Research*. Analogues to marketing research in the promotion of social causes.

STEPHEN S. KEGELES, *United States Public Health Service*. Problems of public health and their relationship to mass communication.

MICHAEL AMRINE, *APA Central Office*. Mass communication and the "public mind": The psychologist's responsibility.

### Division 12. Schizophrenia and Language

1:00-2:50. Parlors E and F, Netherland Hilton

DOROTHY MARQUIS, *University of Michigan*,  
Chairman

1:00. A comparison of speech disturbance levels of paranoid schizophrenics and control subjects prior to and during exposure to an erotic stimulus. GENE SCHULZE, GEORGE F. MAHL, AND JULES D. HOLZBERG, *Yale University and Connecticut State Hospital*.

The means and variances of two measures of speech disturbance level were found to be significantly greater for 21 male paranoid schizophrenics than for 17 control subjects, but presentation of an erotic stimulus (color photographs of nude models) had a surprisingly insignificant effect on the speech disturbance levels of both groups. Since, on the basis of prior studies, the speech disturbance level is considered to be a sensitive index of anxiety level, the possibility that this type of erotic stimulus arouses very little sex drive, and consequently little anxiety, in a formal testing situation is considered.

1:15. Change in daily word associations of a schizophrenic patient relative to psychiatric condition and serum copper levels. L. J. MORGAN, R. B. MEFFERD, JR., AND J. P. KIMBLE, JR. *VA Hospital, Houston, Texas, Baylor University College of Medicine, and University of Texas*.

A 20-item word association measure, with 30 alternate forms, was administered to a young male

schizophrenic for 240 consecutive days, from the beginning of his first hospitalization. A "degree of illness" chart was constructed for this period by the clinical personnel independent of psychological test performance. Treatment regime was varied systematically each 60 days. Daily word associations (scored for complex indicators) correlated .91 with change in psychiatric condition and -.54 with changes in serum copper level (determined on alternate days). The latter varied inversely with psychiatric condition -.57, and it changed strikingly during chlorpromazine and EST.

1:30. A relationship between threat in the manifest content of dreams and active-passive behavior in psychotics. JAMES L. FRAMO, JERRY OSTERWEIL, AND IVAN BOSZORMENYI-NAGY, *Eastern Pennsylvania Psychiatric Institute*.

It was hypothesized that, if threat in the manifest content of the psychotic patient's dreams was directed toward the self, their overt behavior would be largely characterized by pathological activity; and, if threat was directed toward others, by pathological passivity. Two sets of data—123 dreams from 22 female psychotic patients and rankings of their active-passive behavior—were collected for six corresponding two-month time periods. It was found that, when threat was directed toward the self in the dream, the patient's behavior was significantly more likely to be judged overactive. The relationship between other-directed threat dreams and passive behavior was found to be more tenuous because of the paucity of this type of data. The findings are discussed in the light of theories concerning the role of primary identification, specific psychotic defenses, as well as the problems of predicting overt behavior from dream content.

1:45. Semantic correlates of interpersonal and parental attributes in schizophrenia. ROLAND S. ENGELHART, *Baylor University College of Medicine*.

This experiment investigated the semantic correlates of classes of interpersonal and parental behavior associated with deficits in the experimental performance of schizophrenic patients. The Semantic Differential was employed with three groups of normal and good and poor premorbid schizophrenic subjects. It was found that in judging trait-names representing such behavior the groups differed but little in their evaluative ratings. However, poor premorbid subjects judged negative traits of a censorious, threatening nature as distinctly more potent and active than the other groups. Normals rated such traits as least potent and active, while good premorbid patients were intermediate in this regard.

2:00. Childhood and teen-age memories in mentally ill and normal groups. JUNE CHARRY, *Astor Home for Children, Rhinebeck, New York.*

The present study represents an attempt to further explore the interaction of memory and personality by comparing the early memories of two groups of subjects who differ strikingly in the quality of their life adjustment—normal persons and schizophrenic patients. The affective quality of memories of schizophrenic and normal individuals for experiences occurring during the 0-5, 5-12, and 12-20 age spans in six life areas were compared. Results indicated a consistency between the affective quality of memories of adolescent experiences and present emotional set for these two populations.

2:15. Intersensory comparisons of temporal judgments by schizophrenic and healthy subjects. D. WRIGHT, S. GOLDSTONE, AND W. K. BOARDMAN, *Houston State Psychiatric Institute.*

Absolute judgments of temporal concepts may be based upon adequate stimuli for auditory and visual sense modes. Intersensory differences were demonstrated previously in absolute judgments of one clock second. Passive estimates of auditory and visual durations as to whether they were "more" or "less" than a clock second showed that healthy subjects judged about twice as much visual clock time than auditory clock time necessary for an apparent one-second duration. This study demonstrates that this audio-visual intersensory differential effect does not exist for schizophrenics. The results are discussed in terms of the intersensory aspects of sensory psychopathology, e.g., hallucinations.

2:30. A study of schizophrenic language: A replication. WILLIAM G. FISCHER, *Fort Dix, New Jersey.*

A list of 15 selected words were presented to 20 chronic schizophrenic state hospital patients and 20 paired nonpatients for identification from confusion, categorization, and sentence formulation in order to investigate differences between the language of the schizophrenic and the nonpatient. It was hypothesized that there is no difference in identifying words from confusion. It was further hypothesized that schizophrenic language is more personal than that of the nonpatient. A last hypothesis stated that schizophrenic language demonstrates such characteristics as perseveration, shifting, incompleteness of thought, and vagueness as it is formulated and categorized. The first and last hypotheses were not confirmed.

### Division 17. Symposium: Counseling, Learning, and Theory

1:00-2:50. Crystal Room, Sinton

IRWIN A. BERG, *Louisiana State University,*  
Chairman

#### Participants:

I. E. FARBER, *State University of Iowa.* What we do not know about counseling and learning theory.

JOHN J. CONGER, *University of Colorado.* The concept of drive in psychoanalysis and reinforcement learning theory.

JOEL GREENSPOON, *Florida State University.* Verbal conditioning and counseling techniques.

HAROLD B. PEPINSKY, *Ohio State University.* Counseling as a process of negotiation.

#### Films.

1:00-4:50. Parlors A, B, and C, Netherland Hilton

(For titles, see Films on Friday)

### Division 3. Human Learning I

2:00-3:50. Parlors L and M, Netherland Hilton

WILLIAM F. BATTIG, *University of Virginia,*  
Chairman

2:00. Effects of similarity among context cues on learning from paragraph material. SLATER E. NEWMAN AND ELI SALTZ, *North Carolina State College and Wayne State University.*

The effects of increasing similarity among context cues within a paragraph appear to be (a) an increased tendency, early during learning, for generalization to occur mainly among similar items and (b) an increased tendency during later learning for generalization to occur throughout the paragraph and a concomitant decrease in amount learned from the paragraph. The concept of generalization, at least as employed within the framework of Gibson's theory, does not appear to be adequate for handling all the data from this study.

2:10. Reinforcing effects of novel and familiar stimuli in human learning. SHIRLEY I. DOBIE, *Wayne State University.*

Novel and familiar stimuli as reinforcers of instrumental behavior under varying conditions of motivation and task difficulty were investigated in a  $2 \times 2 \times 2$  factorial design. 80 subjects learned a verbal maze and viewed either figures of varying

shapes and colors or a familiar graduation scene following correct responses. The findings indicate: novel stimuli produced superior learning on the easy task, familiar stimuli produced superior learning on the difficult task, and no significant interaction between motivation and reinforcement. It is suggested that an inverse relationship exists between the operations contributing to secondary reinforcement and those determining exploratory drive.

- 2:20. The relationship between direction and amount of stimulus intensity change and amount of perceptual disparity response. H. D. KIMMEL, *University of Florida*.

The intensity of an expected auditory stimulus was changed after 20 presentations. Several amounts of upward and downward intensity changes were used. Amount of GSR, corrected for absolute stimulus intensity differences, was used to indicate perceptual disparity response to the intensity changes. Amount of perceptual disparity response was significantly greater for intensity changes in an upward direction than for changes in a downward direction and was significantly greater for large intensity changes than for small intensity changes. It was concluded that subjects develop preparatory sets regarding stimuli they will receive and that these sets are physically stimulus-bound.

- 2:30. The summation of spatial stimulus generalization gradients. WAYNE T. ALCOCK AND DONALD J. LEWIS, *Louisiana State University*.

Summation of spatial stimulus generalization gradients was tested by using a procedure similar to that reported by Brown et al. to eliminate confounding of facilitatory and inhibitory gradients. Theoretically seven different arrangements of seven overlapping gradients were produced. The arrangements and magnitude of the gradients may be schematically represented as follows: (a) 20%-20%-20%-80%-20%-20%-20%, (b) the reverse, (c) 20%-20%-80%-20%-80%-20%-20%, (d) the reverse, (e) 20% for each stimulus, (f) 80% for each stimulus, and (g) 50% for each stimulus. Arrangements a, b, c, d, and g produced gradients that support a summation hypothesis, whereas data for arrangements e and f did not.

- 2:40. Further studies of factors affecting the probability of changing responses on successive trials. MAYNARD W. SHELLY, *Office of Naval Research, Chicago*.

Factors related to the probability of changing responses on successive trials were investigated through experimentally relating the probability of an alternative's being correct to the preceding choice of a re-

sponse. When repetition was never reinforced, the probability of changing responses increased as the total number of alternatives decreased or as the number of partially reinforced alternatives increased. When repetition was also partially reinforced, number of other partially reinforced alternatives made little difference unless the subject had been reinforced on the preceding trial. Then the probability of changing responses increased. Reinforcing repetition of responses had stronger effects than reinforcing changes of responses.

- 2:50. Alternation behavior in humans. M. RAY DENNY AND JAMES N. ALLEN, *Michigan State University*.

Problem: duration of stimulus satiation effects. College students, individually presented with 10 consecutive sheets of paper containing an inverted L pathway with 2" arms, traversed them with a pencil. Next, they were presented with a single T of like dimensions, after either 0, 24, 48, 72, or 96 hours of delay. The subject had either all right or all left pointing L's. Instructions were minimal. On the T: 90%, 80%, 67%, 50%, and 50% alternated, respectively, for the above intervals. Satiation effects dissipated in three days. Doubling length of the arm increased, and group administration decreased, the satiation effect significantly.

- 3:00. Performance on a compensatory tracking task as a function of pressure and movement controls and display intermittency. ALFRED FINCK, *Air Force Cambridge Research Center, Massachusetts*.

This study reports the effects of varying the physical characteristics of controls and the frequency of viewing the error in a compensatory tracking task. Subjects performed with greater speed and accuracy when a pressure control lever was used than when either a free moving or a heavy, spring loaded movement control was provided. This was observed for conditions of continually viewing the tracking program as well as for conditions in which the display was visible either once or twice a second. It was concluded that pressure cues can facilitate performance when corrective adjustments follow one another in rapid succession.

- 3:10. Studies of performance with televised feedback. WILLIAM M. SMITH, *Dartmouth College*.

Two studies are described in which visual-motor performance was investigated using closed-circuit television. Subjects observed their performance as a televised display, not directly. In one study, the effects of changing the horizontal orientation of the

visual field on assembly performance was determined. For a nondistorted televised condition, performance was inferior to that under a normal, nontelevised condition. Performance under marked changes of orientation was equivalent to kinesthetically guided behavior. In a second study, on tapping performance, it was found that reduction of the size of the televised field hampered performance and magnification had no effect.

- 3:20. New motor learning of preferred and non-preferred hands compared. M. GORDON HOWAT, *Ball State Teachers College*. (Sponsor, David A. Grant)

To compare new motor learning in right and left hands, five male and five female right handed subjects served in a split-split-plot design. Beginning with the right hand and alternating regularly with the left, subjects practiced on the pursuit rotor under conventional conditions for 40 30-sec. trials with intertrial intervals of 30 sec. Analyses indicated the right hand to be significantly superior to the left and to increase this superiority over practice for quality and quantity of performance. The increasing differential found in performance over practice is similar to general findings in learning where subjects differ in initial ability.

#### Division 5 and Psychometric Society. Statistical Procedures

2:00-2:50. Sheraton Room, Sheraton-Gibson

CARL HELM, *Educational Testing Service*, Chairman

- 2:00. Correlation expressions for halo effects and independence of traits. MARY JACINTA MANN AND JULIAN C. STANLEY, *Seton Hill College and University of Wisconsin*.

For the ratee-rater trait matrix we identify three different mean covariances among raters and traits—different raters, same trait (B); same rate, different traits (C); different raters, different traits (D)—and provide formulas for computing these and estimating the analogous average intercorrelations. If B significantly exceeds D, it is worth while to record separate trait scores. If C significantly exceeds D, "relative halo" (among traits within raters) exists. Adjusting ratings to equate C and D eliminates such halo by reducing the magnitude of the ratee-rater interaction mean square to that of the triple-interaction mean square.

- 2:15. On the statistical analysis of discrimination matrices. J. E. K. SMITH, *Massachusetts Institute of Technology*.

A common experiment involves presenting one of a set of stimuli known to the subject and forcing him to try to make the appropriate response. In legibility studies the stimulus-response matrix is called a confusion matrix. Three sorts of inhomogeneity in the data are characteristic: differential detectability of the stimuli, response preferences independent of the stimuli, and confusions among subsets of the stimuli. A method of analysis is presented which permits an evaluation of these effects, allowing for estimation of detection probabilities uncontaminated by response preferences. Chance correction procedures and contingency table tests are shown to be special cases of this method.

- 2:30. Efficient conversion of nonmetric information into metric information. ROBERT P. ABELSON, *Yale University*.

Qualitative information about a set of entities is often via inequalities (rank order scale, ordered metric scale, etc.). A maximin procedure may be used to determine an efficient set of numbers (the maximin sequence) to represent the entities. Goodness of fit is assessed by the square of the lowest product-moment correlation coefficient between the maximin sequence and a sequence in the convex set defined by the inequalities. Results are presented for rank order, diminishing returns, and ordered and higher ordered metric scales. The values of  $r^2$  are higher than one might expect, but lower than might be ideal. Applications are discussed.

#### Division 9 Committee on the Crisis in Education. Workshop and Open Discussion Meeting

2:00-2:50. Parlor 5, Sinton

JEROME S. BRUNER, *Harvard University*, Chairman

#### Division 17 and International Council of Women Psychologists. Invited Address

2:00-2:50. Parlors N and O, Netherland Hilton

DOROTHEA EWERS, *Crete, Illinois*, Chairman

BINGHAM DAI, *Duke University*. Culture, Self, and Ethnocentrism.

#### APA Board of Professional Affairs. Meeting of Officers of State Associations: The State Association Today

3:00-4:50. Parlors E and F, Netherland Hilton

JOHN G. DARLEY, *University of Minnesota*, Chairman

Consultant: ERASMUS L. HOCH, *APA Central Office*.

### APA Education and Training Board. Report of the Miami Conference

3:00-4:50. Pavillon Caprice, Netherland Hilton  
SHERMAN ROSS, *University of Maryland*, Chairman

### Division 2 and Psi Chi. Panel Discussion: Undergraduates View the Curriculum

3:00-4:50. Parlors 4 and 5, Sheraton-Gibson  
GORDON M. HARRINGTON, *Wilmington College*,  
Chairman

#### Participants:

Undergraduates—JANET ASCH, *Antioch College*;  
MARY LOU FREEMAN, *Wilmington College*; WIL-  
LIAM W. HEWETT, *University of Cincinnati*;  
DAVID LUNDGREN, *Antioch College*; STANLEY  
PLUMLY, *Wilmington College*; AND NINA J.  
STUHLBARG, *University of Cincinnati*.

Interrogators—JOSEPH E. MOORE, *Georgia Insti-  
tute of Technology*; C. WINFIELD SCOTT, *Rutgers  
University*; WILLIAM L. HAYS, *University of  
Michigan*.

### Division 3. Psychophysics

3:00-3:50. Parlors N and O, Netherland Hilton  
BERT F. GREEN, *Massachusetts Institute of Tech-  
nology*, Chairman

3:00. Auditory pain thresholds for intermittent,  
"beat," and steady tones. ROBERT PLUTCHIK,  
*Hofstra College*.  
(No abstract received.)

3:10. The validation of magnitude scales by means  
of matching procedures. JOSEPH C. STEVENS AND  
S. S. STEVENS, *Harvard University*.

Two kinds of matching experiments may be used to  
validate the ratio scales of apparent magnitude de-  
termined by numerical estimation. The observer tries  
to match the apparent intensity of a given stimulus  
either by adjusting the intensity of a stimulus applied  
to another modality or by producing an overt response  
of appropriate magnitude (e.g., by squeezing a hand  
dynamometer). Under both procedures the equal-  
sensation function is a power function whose exponent  
is given by the ratio between the exponents govern-  
ing the subjective scales for the two modalities. This  
result confirms the psychophysical law: prothetic  
subjective magnitude grows as a power function of  
stimulus magnitude.

3:20. The relation between opposite attributes as a  
function of scaling method. WARREN S. TORGER-  
SON, *Massachusetts Institute of Technology*.

The quantitative judgment methods of magnitude  
estimation and category rating were used to obtain  
scales of both the whiteness and the blackness of Mun-  
sell neutral gray color chips. Both whiteness and  
blackness appear to satisfy Stevens' criteria for pro-  
thetic attributes. The magnitude estimation scales  
were both related to physical reflectance by a power  
function, whereas the relation between reflectance and  
the two category scales was more nearly logarithmic.  
For the magnitude estimation procedure, the white-  
ness scale was the reciprocal of the blackness scale;  
while for the category rating procedure, the white-  
ness and blackness scales were linearly, but negatively,  
related.

3:30. The influence of anchors upon judged loud-  
ness with different presentation-intervals between  
stimuli. WILLIAM BEVAN AND WALTER G. REED,  
*Emory University*.

Pooling theories of psychophysical judgment (e.g.,  
adaptation level) would predict a decrease in PSE  
with increasing temporal intervals between series  
stimuli. They would also predict that this trend  
should be reduced with the introduction of an anchor  
above the series and enhanced by a low anchor. Both  
hypotheses were confirmed for judged loudness with  
presentation intervals up to 64 seconds, although the  
predicted anchor effect was more marked for the loud  
anchor condition. Precision of judgment for the no-  
anchor condition increased regularly with an increase  
in presentation intervals; a similar trend was absent  
from the anchor data.

### Division 9 Committee on Desegregation and In- tegration. Workshop and Open Discussion Meeting

3:00-3:50. Parlor 5, Sinton

EARL H. NASH, JR. AND DANIEL M. WILNER, *Johns  
Hopkins University*, Discussion Leaders

### Division 12. Learning and Problem Solving

3:00-4:50. Parlor G, Netherland Hilton

KARL F. HEISER, *Glendale, Ohio*, Chairman

3:00. Responses by normal and schizophrenic sub-  
jects under positive and negative examiner rein-  
forcement in a probability learning situation.  
LEONARD P. ULLMANN AND RALPH P. FORSYTH,  
*VA Hospital, Palo Alto, California*.

This research studied probability learning as a  
potential dependent variable for investigating schizo-  
phrenic motivation and concept formation. With 16  
normal women, 16 ambulatory GM&S males, and 32

hospitalized schizophrenics, hypotheses from previous work with paired-associate learning were tested. Variances among the four groups (two types of subjects and two conditions) were significantly heterogeneous. Within types of subjects, variances for groups under different conditions were homogeneous, but schizophrenic subjects showed significantly greater variability than normals. Findings in the following predicted directions approached statistical significance: normals reached higher levels under positive than under negative examiner responses, while the reverse occurred with schizophrenics.

- 3:15. Binary choice learning strategies in schizophrenics. GEORGE ASHMAN, *Longview State Hospital, Cincinnati, Ohio*.

The purpose of the investigation was to determine the effect of prior experience upon the formation of useful learning strategies in binary choice probability tasks by schizophrenics. 40 adult schizophrenic subjects were broken down into five groups and exposed to varying sequences of 100:0 and 50:50 probability patterns presented on a slot machine type of apparatus. The results indicated that schizophrenics are generally unable to form logical modes of responding to a continuous series of probability events. They are thus not able to utilize prior probability learning in responding appropriately to later patterns.

- 3:30. Performance of process and reactive schizophrenics in a binary guessing task. MARTIN ZLOTOWSKI AND PAUL BAKAN, *Fort Custer V.A. Hospital and Michigan State University*.

The behavior of a group of process schizophrenics was compared with that of a group of reactive schizophrenics in a head-tail coin guessing situation. Comparison was made with respect to (a) alternation frequency, i.e., number of times head was followed by tail or tail by head in a series of 300 guesses and (b) reliability of alternation frequency scores as measured by a split-half reliability coefficient. The process group had significantly more alternations and was significantly more reliable in alternation behavior than the reactive group. Results are interpreted in terms of differences between the groups in tendency toward response stereotypy.

- 3:45. The sum of operant interresponse times greater than ten seconds: An index of the severity of a psychosis. OGDEN R. LINDSLEY, *Harvard Medical School*.

Severely psychotic patients responded intermittently on a one-minute variable-interval schedule of reinforcement, while normals and less severely psychotic patients showed even rates. Long pauses characteris-

tic of severe psychosis were quantified by recording sums of interresponse times greater than 10 seconds for hour-long sessions. 14 "nonpsychotic" humans and 18 dogs were significantly lower on this measure than 12 psychotic children and 23 chronic psychotic adults. The measure related to several clinical indicators of severity of illness, but not to psychiatric diagnosis or duration of hospitalization. The more psychotic the individual, the more time he spent in nonreinforced activity.

- 4:00. "Subliminal" prior solution cues in problem solving. ERNST G. BEIER AND MARIE GRIFFIN, *University of Utah*.

Goldiamond correctly asked for quantitative measures in the area of subliminal threshold studies. Using a problem solving task, the experimenters were interested in discovering whether subjects can actually make use of hidden cues in the learning task and also wanted to test a method which would permit evaluating to what degree recognition of hidden cues can take place. Results from testing four groups with subliminal and supraliminal relevant and nonrelevant cues permitted the conclusion that subliminal or unreportable relevant cues facilitate problem solving behavior. The quantitative method would lend itself to discovering limits of effectiveness or subliminal vs. supraliminal cues.

- 4:15. The effect of predefined stimulus properties of pictures on person perception as a function of intelligence. HOWARD I. LOW, *State University of Iowa*.

This study used specially designed pictures in which three physical stimulus properties were systematically varied. These pictures were used to evaluate stimulus effects on inferences about the relationships between the people pictured in them. 80 women, classified as either moron or borderline, were used to determine how intelligence affects the use of these nonverbal perceptual cues. It was found that predefined stimulus properties profoundly influence person perception by determining their perceived characteristics. The data also showed that subjects of borderline intelligence make greater use of subtle nonverbal perceptual cues than do mentally retarded subjects.

- 4:30. The relationship between level of aspiration and intelligence. LEVARL M. GUSTAFSON AND DONALD J. DICKINSON, *Oklahoma State University*.

Level of aspiration was tested for a number of different tasks with adult subjects of varied intellectual levels. Then a measure of flexibility of adjustment of level of aspiration to actual performance level was

computed. The four tasks employed involved: hand prehension, stacking, visual discrimination, and auditory discrimination. Subjects were selected from four different IQ ranges: 34-45, 55-70, 93-110, and 111-130. Statistical analysis indicated that difference score, discrepancy between level of aspiration and actual performance, demonstrated a significant interaction for Task X IQ level. Adjustment of level of aspiration to actual performance level was most difficult for the lower intellectual levels.

#### **Division 12. Symposium: Manifestations and Measures of Impulse Control and its Behavioral Concomitants**

3:00-4:50. Sheraton Room, Sheraton-Gibson

RALPH W. COLVIN, *Astor Home for Children, Rhinebeck, New York*, Chairman

##### **Participants:**

NATHANIEL N. WAGNER, *Astor Home for Children*. Developmental aspects of impulse control.

RALPH W. COLVIN, *Astor Home for Children*. Interpersonal and intellectual concomitants of impulse control in emotionally disturbed children.

ANNE M. RITTER, *Kennedy Child Study Center*. Impulse control as related to intellectual and social functioning in retarded children.

HAROLD WILENSKY, *Franklin Delano Roosevelt VA Hospital*. Perceptual and behavioral concomitants of impulse control in hospitalized schizophrenics.

JEROME L. SINGER, *Teachers College, Columbia University*. Imagination and the internalization of control.

Discussant: LESLIE PHILLIPS, *Worcester State Hospital*.

#### **Division 9. The Kurt Lewin Memorial Award Presentation and Address**

4:00-4:50. Ballroom, Sinton

RALPH WHITE, *Harvard University*, Chairman

FRITZ HEIDER, *University of Kansas*. On Lewin's Methods and Theory.

#### **Psi Chi. Invited Address**

4:00-4:50. Parlors N and O, Netherland Hilton

LEONARD CARMICHAEL, *Smithsonian Institute*. Animal Infancy.

#### **MONDAY EVENING, SEPTEMBER 7**

#### **APA Symposium: Values, Knowledge, and Social Control**

8:00-9:50. Pavillon Caprice, Netherland Hilton

RALPH W. TYLER, *Center for Advanced Study in the Behavioral Sciences*, Chairman

Participants: RAYMOND A. BAUER, *Harvard University*; GEORGE H. KELLY, *Ohio State University*; AND RICHARD C. SNYDER, *Northwestern University*.

#### **TUESDAY MORNING, SEPTEMBER 8**

#### **Divisions 1, 3, and 15. Symposium: Research Issues in the Study of Human Learning Raised by Developments in Automated Teaching Methods**

9:00-11:50. Hall of Mirrors, Netherland Hilton

ROBERT GLASER, *University of Pittsburgh*, Chairman

##### **Participants:**

ARTHUR A. LUMSDAINE, *American Institute for Research*. Response cuing and "size-of-step" in automated learning programs.

LESLIE J. BRIGGS, *Hughes Aircraft Company*. Problems in simulation and programing in the design of complex-skill trainers.

ROBERT M. GAGNÉ, *Princeton University*. Teaching machines and transfer of training.

THOMAS F. GILBERT, *Harvard University*. On the relevance of laboratory investigation of learning to self-instructional programing.

LLOYD E. HOMME AND ROBERT GLASER, *University of Pittsburgh*. Problems in programing verbal learning sequences.

Discussants: ERNEST R. HILGARD, *Stanford University*; CARL I. HOVLAND, *Yale University*; AND FRED S. KELLER, *Columbia University*.

#### **Division 2. Symposium: Professional and Vocational Training at the Undergraduate Level**

9:00-10:50. Parlor 7, Sheraton-Gibson

JOHN E. MILHOLLAND, *University of Michigan*, Chairman

##### **Participants:**

T. L. ENGLE, *Indiana University*. The preparation of high school teachers of psychology.

ELTON B. McNEIL, *University of Michigan*. Clinical training for teachers.

MAX MEENES, *Howard University*. The teaching of testing skills.

MARION BUNCH, *Washington University*. The place of laboratory skills in the undergraduate program.

ROBERT F. DEHAAN, *Hope College*. Undergraduate training for social service work.

Discussant: R. B. MACLEOD, *Cornell University*.

### Division 3. Comparative

9:00-9:50. Parlors N and O, Netherland Hilton

MERRILL E. NOBLE, *Kansas State College*, Chairman

9:00. The effectiveness of artificial imprinting objects in eliciting filial behavior in chicks. HALMUTH H. SCHAEFER, *University of Chicago*.

While recent experimental work (Fabricius, Hess, Hinde et al., Ramsay) provides good evidence for taking seriously K. Z. Lorenz' model for acquisition of behavior, the question whether the range of possible imprinting objects for certain fowl is as wide and, within itself, as undifferentiated as has been implied has not been investigated systematically. Darkroom hatched chicks were exposed during the critical period to stimuli varying in color and shape and tested later for the effects of imprinting. Measures were the distance followed during imprinting and choice made at later testing. It could be shown that not all potential imprinting objects were equally effective.

9:10. Sensitization vs. conditioning in Planaria: Some methodological considerations. SAMUEL B. CUMMINGS AND CARL C. MORELAND, *Kenyon College*.

In classical conditioning experiments Planaria were subjected to 250 pairings of vibration and shock. An increasing number of responses to the vibration was obtained through Trial 150, but the response frequency dropped off sharply thereafter. In control experiments using vibration alone, similar results were obtained to Trial 150 without subsequent decline. There was no unequivocal demonstration of learning. The increment in response frequency to the "conditioning" stimulus is best understood as increasing sensitivity to continued stimulation. These results stand in marked disagreement with earlier reports of negative adaptation and conditioning in this species. In view of Planaria's strategic importance in the study of learning, further search for indisputable evidence of learning capacity is decidedly in order.

9:20. Apparent retention of a conditioned response following total regeneration in the planarian. JAMES V. MCCONNELL, REEVA JACOBSON, AND D. M. MAYNARD, *University of Michigan*.

Prior research with the planarian (a common freshwater flatworm) indicates that (a) this organism can be conditioned and (b), if cut in half following conditioning, both head and tail sections will regenerate

into complete organisms which show significant savings of the CR. These "second generation" animals contain some unregenerated tissue from the original organism and some tissue which has been reformed during regeneration. Data reported in this paper suggest that significant savings occurs even in "third generation" animals composed entirely of reformed tissue, although the savings is not as great as that found in "second generation" animals.

9:30. The discrimination of underwater echoes by a small whale. W. N. KELLOGG, *Florida State University, Tallahassee*.

To measure its accuracy of echolocation, a captive porpoise was placed in a standard discrimination situation and required to distinguish between two simultaneously presented food fishes 6 and 12 in. long. It was rewarded when it chose the smaller of the two fishes. Controls eliminated visual cues both above and below the water so that the selection could only be made by differentiating between the patterns of echoes from the sonar-like noises of the animal. After the first 131 trials, the accuracy of discrimination reached 100% where it remained even during test sessions conducted in darkness.

### Division 5. Conference: Information-Processing Languages for Digital Computers: A Technique for Model Building.

9:00-10:50. Rookwood Room, Sinton

BERT F. GREEN, JR., *Massachusetts Institute of Technology*, Chairman

Topics: Properties of the Newell-Shaw-Simon Information-Processing Language (I.P.L.-V), Current Status of I.P.L.-V, and Information-Processing Models in Psychology.

Discussants: ALLEN NEWELL, *Rand Corporation*; ED FEIGENBAUM, *Carnegie Institute of Technology*; JULIAN FELDMAN, *Carnegie Institute of Technology*; NANCY ANDERSON, *International Business Machines Corporation*; JAMES COLEMAN, *Johns Hopkins University*; NISSAM LEVY, *Brown University*; AND ROGER SHEPARD, *Bell Telephone Laboratories, Inc.*

### Division 14. Paper Reading Session II

9:00-9:50. Parlor G, Netherland Hilton

PAUL W. THAYER, *Life Insurance Agency Management Association*, Chairman

9:00. Effect of group cohesiveness and training upon creative thinking. DAVID COHEN, JOHN W. WHITMYRE, AND WILLIAM H. FUNK, *VA Hospital, Coatesville, Pennsylvania*.

D. W. Taylor found that group participation when using brainstorming methods inhibits creative thinking. In this study, variables of training, and ego-involving problems were studied in cohesive, noncohesive, and "nominal" groups (Taylor) of two members each, based on sociometric choice. Results: (a) Taylor's five qualitative scales are unreliable. (b) Only on the ego-involving problems were there significant differences among the groups and then only in number of unique ideas produced. The cohesive trained groups were significantly better than all other groups. In the untrained group, the cohesive groups did significantly better than the nominal groups. With noncohesive groups, training is not a relevant variable. (c) Sociometric choices for brainstorming partners were significantly related to the subjects' perceptions of skill.

9:15. Facilitating self-evaluation in gaming. JOHN R. TILTON AND BARRY T. JENSEN, *System Development Corporation*.

Many training programs utilize gaming and simulation techniques with the tasks generally followed by discussions at which observers report on the game. Reference will be made to an experiment on feedback of knowledge and its use. Principles for feedback and leadership functions will be presented and discussed.

9:30. Enhancing manager judgment in totem poling. R. B. PARKS, EARL ENDS, AND RALPH KORKLIN, *Martin Corporation, Denver Division*.

Totem poling (or laddering) is the industrial practice of placing personnel in a value hierarchy on the basis of manager judgment. Generally, evaluation specialists find the practice to be offensive because it is not likely to include the use of standardized rating instruments, appears to ignore the mixing of "oranges and apples," and admits of no objective evaluation. The present study examines this practice from the viewpoint of the manager. It includes the application and assessment of a device designed to stimulate judgment responsibility (rather than challenge or pre-empt it).

#### Division 19. Symposium: Man's Expanding Environment: Session I

9:00-11:50. Pavillon Caprice, Netherland Hilton

DENZEL D. SMITH AND RICHARD TRUMBULL, *Office of Naval Research*, Chairmen

##### A. Ocean Floor

ANDREAS B. RECHNITZER, *United States Naval Electronics Laboratory*. Bathyscaph and underwater swimming.

Discussant: VICTOR FIELDS, *Bureau of Naval Personnel*. Psychological implications.

##### B. Subsurface

R. B. LANING, *Office, Chief of Naval Operations*. Nuclear submarine operations.

Discussant: JACK L. KINSEY, *Naval Special Projects Office*. Psychological implications.

##### C. Stratosphere

MALCOLM D. ROSS, *Office of Naval Research*. High altitude balloon research.

Discussant: JOHN L. BROWN, *Aviation Medical Acceleration Laboratory*. Psychological implications.

#### Division 21. Engineering Psychology I

9:00-9:50. Parlors E and F, Netherland Hilton

EZRA V. SAUL, *Tufts University*, Chairman

9:00. Development of measures of maintainability for electronic equipment. JAMES W. ALTMAN AND MANUS R. MUNGER, *American Institute for Research*.

The purpose of the study was to provide the United States Army Signal Equipment Support Agency with a technique for evaluating equipment submitted to it for acceptance. The procedure contains the following four principal parts: a checklist of design features known to be related to maintenance effectiveness, a standard routine for deriving profiles of obtained scores, profiles of minimum acceptable scores for design factors and design consequences, and a manual for the evaluator providing detailed instructions and data needed for use of the procedure. Many techniques in the procedure are applicable to measurement of a variety of human factors design virtues for many different types of man-machine systems during development.

9:10. Development of a method for evaluating the effects of electronic countermeasures on systems performance. WILLIAM D. HITT AND HORACE W. RAY, *Battelle Memorial Institute*.

Numerous studies have been conducted to determine the effects of airborne ECM on ground radar equipment and operator performance. Because of the enormous costs involved in the conduction of operational field tests, very few studies, however, have been conducted to ascertain the effects of electronic countermeasures on "systems" performance. By use of an ECM simulator and its related equipment, human subjects, and a digital-computer program, this study simulated three components of one subsystem within the Aircraft Control and Warning System: an attacking bomber carrying ECM, a ground radar operator, and a ground controlled interceptor. It appears that the approach used in this study represents an efficient method for relating ECM characteristics to systems performance.

- 9:20. *Sibyl: A large, generalized, electromechanical machine for laboratory instrumentation in engineering psychology.* H. D. IRVIN, *Bell Telephone Laboratories, Inc., Murray Hill, New Jersey.* (Sponsor, John E. Karlin)

This paper describes the application of *Sibyl*, a general purpose relay machine of modular construction, to several kinds of psychological studies. The machine possesses features of unusual flexibility and divisibility so that experiments of varying size may be instrumented readily by programming *Sibyl* to perform the required logical functions. Considerable term economy results from the complete salvagability of such programed experimental equipment. Several forms of automatic data recording, including punched cards, are available. Examples are given of the use of the equipment in studies of simulated communication systems, teaching machines, and operant behavior.

- 9:30. *A psychological-mathematical model for comparing and predicting operator loading in man-machine systems.* ARTHUR I. SIEGEL AND J. JAY WOLF, *Applied Psychological Services, Wayne, Pennsylvania.*

Complex systems in which a human operator is one link are often found to overload or underload the operator after the system is accomplished. This study was directed at the development and test of a logic for predicting, while a man-machine system is in the early design stage, the operational effectiveness of the system. A psychological-mathematical model was developed and applied to a naval operational flight task. Validation of the model's predictions against actual fleet experience suggested the model's potential for predicting, at least for one operator systems, systems success.

#### Films.

- 9:00-11:50. *Parlors A, B, and C, Netherland Hilton*

(For titles, see Films on Saturday)

#### Division 3. Vision II

- 10:00-11:50. *Parlors N and O, Netherland Hilton*

ROBERT M. BOYNTON, *University of Rochester,*  
Chairman

- 10:00. *Variations in retinal quantum absorptions of the fovea as a function of wavelength and area.* M. LAVERNE LADRIERE, *Fordham University.* (Sponsor, Richard T. Zegers)

Two subjects were tested by means of the Fordham Colorimeter with 28 wavelengths throughout the visual spectrum on a series of concentric, centrally located foveal fields. The results of this investigation, expressed in quanta per cone ratios, indicated that one quantum per bipolar is sufficient for visual sensation. The data further show that wavelength is a parameter of the area-intensity function, and a physiological interpretation of Baumgardt's quasi-independent unit is also suggested. Finally, the results demonstrate the existence of foveal tritanopia, but suggest that it is due to factors other than the absorption of the macular pigment.

- 10:10. *Physiological mechanism of successive color contrast.* R. L. DE VALOIS, N. CARR, AND S. CIANCI, *University of Michigan.*

In successive contrast the effect of a monochromatic light is enhanced by preadaptation to the complementary wavelength. We have found analogous behavior in the responses of single on-or-off cells in the macaque lateral geniculate nucleus. Such a cell fires more impulses to a monochromatic light if the eye has been preadapted to the complementary light than if it has not. On-responses to one light sum with the off-responses to the preceding complementary light to produce the phenomenon.

- 10:20. *The relationship between discriminability and hue generalization in the monkey.* LEO GANZ, *University of Chicago.* (Sponsor, Austin H. Riesen)

A discriminated key press operant was established successively in three regions of the spectrum in each of six young monkeys. Analysis of variance of an average deviation transformation of the data yielded a significant effect, attributable to JND differences in the three regions. The deviations in gradients were found to be predictable, at least ordinally, from the human differential hue sensitivity function. It is concluded that differential sensitivity is a determinant of the stimulus generalization gradient.

- 10:30. *Luminance required to detect the presence of a dark interval between two pulses of light.* W. CRAWFORD CLARK AND RONALD PICKETT, *University of Michigan.*

The function relating interruption threshold (the luminance required to detect the presence of a brief dark interval between two light pulses) and duration of the dark interval was determined. The thresholds were obtained by the method of constant stimuli, the task of the observer being to specify which of four light pulses contained the interruption. The results show that at high luminance it is possible to detect

an interruption at least as brief as 0.005 seconds, but at low luminances 0.06 to 0.14 seconds are necessary. The conclusion was that the visual system responds in much the same way to both interruptions and pulses of light.

- 10:40. Effects of retinal image motions on vernier acuity. ULKER S. TULUNAY, *Brown University*. (Sponsor, Lorrin A. Riggs)

The purpose of this experiment was to investigate vernier acuity with and without normal motions of the retinal image. Vernier targets were presented for varying exposure times under stabilized image conditions and under conditions that were optically the same except that eye movements were allowed to produce normal motions of the retinal image. Under each condition vernier acuity improved with increasing exposure time up to about 0.5 second, after which no further improvement was noted. The main result was that the presence or absence of retinal image motions did not have a significant effect on vernier acuity.

- 10:50. Dark adaptation in the starling as a function of duration of light adaptation. HELMUT E. ADLER AND IRWIN SIEGEL, *American Museum of Natural History, New York*.

Luminance thresholds were obtained on two starlings, following preadaptation to 0 min., 5 min., 10 min., 15 min., and 20 min., of white light at 60 mL. Under the operant conditioning technique used, the bird controlled its own stimulus intensity and was reinforced in such a way as to keep the stimulus oscillating around its threshold. Preadaptation resulted in dark adaptation curves which showed a prolonged cone segment, and a rod segment which did not reach final level until 60 min. in the dark. The relation between duration of pre-exposure, slope of the curve, and time to reach final level is discussed.

- 11:00. Evidence for a systematic aniseikonic error. EDWARD ENGEL, *State University of New York College of Medicine, Syracuse*.

Incidental observations in a variety of experimental contexts have suggested the hypothesis that some magnification of the right eye image in the horizontal meridian exists in most observers. Measures of aniseikonia were obtained for 32 subjects, along with a measure of stereoscopic sensitivity. 13 of 16 subjects who showed the minimal sensitivity required for accurate measurement gave measures indicating a horizontally larger image associated with the right eye. Additional confirming evidence was obtained from an analysis of data of the low sensitivity subjects as well as by reanalysis of data existing in the literature.

- 11:10. Studies in the kinetic depth effects. BENJAMIN W. WHITE, *Massachusetts Institute of Technology*.

Subjects were asked to reproduce five-element arrangements which were generating moving shadows on a display such as Metzger used to study the kinetic depth effect. Various stimulus conditions were employed to determine their effect on accuracy of reproduction. Elements discriminably different in shape, longer exposure durations, and the introduction of reference markers all increased accuracy. Varying thickness and spacing of the elements, giving subjects control over rotation, and changing the center of rotation all had little effect on accuracy. Marked and consistent individual differences were found in the ability to reproduce patterns from kinetic depth displays.

- 11:20. The effect of fixation conditions on depth discrimination thresholds at scotopic and photopic illuminance levels. ALFRED LIT, *Bendix Aviation Corporation, Ann Arbor, Michigan*.

Depth settings were obtained in a two-rod test apparatus under three methods of fixation: steady fixation on the movable comparison rod, steady fixation on the stationary standard rod, and alternating fixation from comparison to standard rod. For all three fixation methods, the precision of depth discrimination increased by about 20:1 as illuminance level was increased over a range of five log units. The effects of variations in fixation were small but systematic. These results have significance for photochemical theories of vision and for the current controversy concerning the role of convergence cues in stereoscopic acuity.

#### Division 14. Symposium: Research in Action: II. Bell Telephone Laboratories, Inc. and Sears, Roebuck and Company

10:00-11:50. Parlors L and M, Netherland Hilton

LEONARD W. FERGUSON, *Life Insurance Agency Management Association, Chairman*

#### Participants:

H. O. HOLT, *Bell Telephone Laboratories, Inc.* Psychological research in the Bell Telephone Laboratories.

H. B. GERARD, *Bell Telephone Laboratories, Inc.* A specific study: Conflict and conformity.

V. J. BENTZ, *Sears, Roebuck and Company*. Psychological research at Sears, Roebuck and Company.

F. J. SMITH, *Sears, Roebuck and Company*. A specific study: Dimensions of executive morale.

### Division 21. Symposium: Environmental Stress and Human Performance

10:00-11:50. Parlors E and F, Netherland Hilton

WILLIAM J. WHITE, *Cornell Aeronautical Laboratory*, Chairman

#### Participants:

J. M. ENOCH, *Washington University*. Illumination.

H. JERISON, *Antioch College*. Noise.

R. CHAMBERS, *Naval Acceleration Laboratory*. Acceleration.

N. H. MACKWORTH, *Defense Research Medical Laboratory*. Temperature.

W. R. MILES, *Naval Medical Research Laboratory*. Confinement.

### Division 2. The Teaching of Psychology

11:00-12:50. Parlors 8 and 9, Sheraton-Gibson

SUMNER C. HAYWARD, *Chatham College*, Chairman

11:00. Attitudinal outcomes of child psychology courses having different orientations. FRANK COSTIN, *University of Illinois*.

Two child psychology classes were taught by different instructors with contrasting orientations toward parent-child relationships: "clinical" (Class C) and "social" (Class S). The PARI, which measures attitudes toward parent-child relationships, was used to obtain students' precourse and postcourse self-attitudes, students' postcourse perception of instructors' attitudes, and instructors' self-attitudes. Class C's self-attitudes changed in "permissiveness" more than Class S's. Classes tended to agree in perception of instructors' attitudes. Class C's postcourse self-attitudes were like its perception of its instructor's attitudes, but Class S's postcourse self-attitudes were more "permissive" than perception of its instructor's attitudes. Instructors' self-attitudes agreed more than they disagreed.

11:15. Let's get our applied courses out of the classroom. EDWARD R. OSTRANDER AND SAMUEL A. MUDD, *Gettysburg College*.

Can a reality oriented course in industrial psychology be sufficiently broad to justify its place in a liberal arts curriculum? If the roles of Industrial Man as consumer and investor are included with the worker and manager roles traditionally covered by industrial psychology, it can. The reality orientation was retained by having students play roles in a fictional company headed by the instructor. Further reality contact included memo-form assignments, industrial problem solving, field trips, and guest lectures by

union and industrial leaders. Getting away from the classroom heightened realism and increased student motivation.

11:30. Teaching psychology by a teaching-machine program. JAMES G. HOLLAND, *Harvard University*.

A teaching-machine program in psychology was used with 187 Harvard and Radcliffe students. The program consists of 48 "lessons" each containing 29 completion items, finely graduated in difficulty to provide final mastery with minimal errors. Programing techniques are described and examples provided. Error analysis yielded information regarding the adequacy of the programing techniques. These are illustrated by samples of revised material. A questionnaire revealed student reaction to be favorable. Analysis of performance on a final examination indicated that items related to the machine work were much more frequently answered correctly than items not related to the machine work.

11:45. Learning without class instruction. OHMER MILTON, *University of Tennessee*.

Recent studies of college teaching have emphasized the role of the instructor—little relationship has been found between various classroom procedures and academic achievement. Seemingly, student intrinsic "motivation" has been overlooked. In this investigation "motivation" was measured objectively in two large groups: one attended class thrice weekly, another did not attend class for an entire quarter. A greater number in the "no class group" than in the "class group" made voluntary purchases of a workbook and completed more "outside readings." Many students have no intrinsic "motivation" to learn; perhaps our class arrangements and teaching procedures reduce it in others.

12:00. Variations in the teaching and learning of statistics in an introductory psychology course. RALPH NORMAN HABER, *Yale University*.

Being unable to decide whether to teach statistics in introductory psychology at Yale last fall, the 15 instructors did as they pleased. Later, a detailed questionnaire asked them what and how much statistics they taught. All students were then given an unannounced quiz. The sections differed significantly from each other. This difference was positively correlated with number of hours devoted to statistics, with amount of calculations the students had to do, and with amount of time spent on hypothesis testing. Specific quiz items were related to specific procedures. However, instructors' confidence in their teaching statistics correlated negatively with quiz performance.

12:15. Teaching Skinner's descriptive behaviorism in the fifth grade. H. E. KLUGH, D. E. HENDERSON, AND W. A. DETERLINE, *Alma College and East Jordan Public Schools*.

An unselected fifth grade class of 33 children served as subjects in an exploratory study of the limits and possibilities of teaching simple concepts of Skinner's behaviorism in the elementary grades. Skinner box demonstrations were given two to three times a week as part of the regular science program. Concepts demonstrated were reinforcement, extinction, secondary reinforcement, discrimination, generalization, partial reinforcement, and chaining. Children operated the apparatus, drew graphs, and took part in discussions relating the concepts demonstrated to human behavior. The children were enthusiastic, interested, and apparently acquired an elementary understanding of these concepts in terms of human behavior.

**Divisions 2 and 5. Informal Discussion: A Mathematically Oriented Introductory Psychology Course**

11:00-11:50. Parlor 5, Sinton

Participant: EUGENE H. GALANTER, *University of Pennsylvania*.

**Divisions 2 and 15. Symposium: The Teaching of Psychology to In-Service Teachers**

11:00-12:50. Parlor 7, Sheraton-Gibson

ALFRED E. KUENZLI, *Southern Illinois University*,  
Chairman

Participants:

HENRY P. SMITH, *University of Kansas*. How shall we teach educational psychology to in-service teachers?

F. KENNETH BERRIEN, *Rutgers University*. Can the case method contribute to the in-service training of teachers?

CAMERON W. MEREDITH, *State University of New York Teachers College*. Some experience in teaching psychology to teachers.

Discussant: ROBERT E. BILLS, *Alabama Polytechnic Institute*.

**TUESDAY AFTERNOON, SEPTEMBER 8**

**Division 2. Symposium: The Preparation of College Teachers at the Master's Level**

12:00-1:50. Parlors L and M, Netherland Hilton

SLATER E. NEWMAN, *North Carolina State College*,  
Chairman

Participants:

E. LOWELL KELLY, *University of Michigan*. Some implications of the Miami Conference.

HOWARD G. MILLER, *North Carolina State College*. On the need for master's level teacher training programs.

GRAHAM B. BELL, *Pomona College*. Problems in the conduct of a master's program for preparing college teachers.

SLATER E. NEWMAN, *North Carolina State College*. Desirable characteristics of a master's program for preparing college teachers.

EMILY M. F. COOPER, *Temple University*. The master's level teacher: Observations of a "consumer."

**Division 5 and Psychometric Society. Psychometric Procedures**

12:00-12:50. Parlor 5, Sinton

J. E. K. SMITH, *Massachusetts Institute of Technology*, Chairman

12:00. A balanced incomplete block design for paired comparisons. HAROLD GULLIKSEN, *Princeton University*.

The information necessary for paired comparison scaling is obtained by a balanced incomplete block design that pairs each item exactly once with each other item in the same block. An IBM 650 program is being prepared for analysis of data collected by this method. Schedules comparing different occupations and different nationalities have been prepared in English, German, and French. An analysis is presented of data from France on occupational preferences, and from Germany on nationality preferences.

12:15. An analytically meaningful approach to matrix computations. PHILIP H. DUBOIS AND WINTON H. MANNING, *Washington University, St. Louis*.

Statistical computations in analyses of multivariate relationships are often carried out by arithmetical routines in which intermediate numerical entries lack analytical meaning. A procedure is described for finding the inverse of a correlation matrix in which every entry at every stage has meaning as a variance or covariance in reduced  $z$ -form, as a beta coefficient, or as a beta divided by a variance. In addition to computational efficiency and compactness, the method facilitates transition from scalar to matrix notation in teaching situations and promotes understanding of numerical operations through retention of meaningfulness in computations.

12:30. Kit of factor reference tests. JOHN W. FRENCH, *Educational Testing Service*.

Seven committees of factor analysts have been revising and expanding a kit of reference tests for aptitude factors first made available in 1954. Specimen copies of three recommended reference tests for each of 16 factors were included in the original kit. The committees working on the revised kit have considered general improvement of recommended tests, additional aptitude factors, the handling of performance test materials, and factors from the personality domain. Persons using factorial methods are encouraged to reproduce these specimen reference tests of known factors for use in their own studies to clarify interpretation of factors in new areas.

#### Division 21. Engineering Psychology II

12:00-12:50. Parlors E and F, Netherland Hilton

WILLIAM D. GARVEY, *Naval Research Laboratory*,  
Chairman

12:00. The development and evaluation of an aural reading device for the blind. JOHN S. ABMA AND RICHARD S. LAYMON, *Battelle Memorial Institute*.

Several preliminary studies were conducted which provided information regarding types of auditory output, aids for tracking, the spacing of tones, and the number of channels that could be used in a portable, direct translating reading device. Five prototype readers were fabricated and used in a training program at the Ohio State School for the Blind with approximately 10 blind subjects. Manual performance with the device for some subjects is now better than five words identified per minute. Continued training will provide further indications of the feasibility of this device for reading ordinary printed material.

12:10. Depth perception on a two-dimensional display: I. Relative brightness and relative focus. W. L. CAREL, R. E. LUBOW, AND H. WALLACE, *General Electric Advanced Electronics Center, Ithaca, New York*.

The conditions for the perception of depth in pictures or two-dimensional displays has been of interest to artists and psychologists for many years. A series of experiments was planned to investigate the variables associated with such perceptions. This study reports the effects of brightness and focus. Both variables are important determinants for the perception of spatial separation of surfaces shown on a two-dimensional display media. Effectiveness is quantized in terms of the  $\Delta I/I$  ratio needed to achieve depth. An area of ambiguity of depth is charted for the two variables.

12:20. An approach to determining the reasonable limits of object weight and shape for human transport. M. J. MARCUS, *IBM, Owego, New York*.

The engineering psychologist is often asked to comment on the weight and shape of objects a human being may reasonably be expected to carry in some given task situation. There are no systematic data available on this problem. Present information is based either on subjective judgments or the upper limit of strength. A methodology using task performance time as a dependent variable is described in an experiment where weight transported was varied for two tasks, for four male subjects. Findings indicate that, under certain conditions of experimentation, time to perform task as a function of weight carried is a useful index of man-carry capacity.

12:30. Control-display displacement functions in scope tracking tasks. E. C. WORTZ, A. C. McTEE, AND D. L. COLE, *Convair (Astronautics) Division of General Dynamics and University of Texas*.

A scope tracking experiment was conducted with a side located control stick. The dependent variables were: control-display displacement functions (4), system temporal lags (3), target velocities (3), and the pursuit and compensatory tracking paradigms. 24 subjects were run under each of the 72 combinations of conditions. The independent variable, RMS error, was integrated for each trial. The data were treated by analysis of variance and *t* techniques. The results indicate no second or third order interactions among the dependent variables. The effects of the dependent variables on compensatory and pursuit tracking are discussed.

#### Division 1. Papers in General Psychology

1:00-3:50. Parlor 3, Sinton

CARLETON F. SCOFIELD, *University of Florida*,  
Chairman

1:00. A comparative study of delinquents and non-delinquents. CLARA CHASELL COOPER, *Berea College*.

The comparative study of delinquents and non-delinquents provides a wide variety of evidence concerning the relation between delinquency and mental inferiority, constituting an atlas of earlier studies of reports concerning delinquency, estimates of mental deficiency, reports of educational status, and results of intelligence tests, utilizing as subjects adult criminals, juvenile delinquents, sex offenders, and alco-

holics. Data collected from over 100 investigations representing more than 11,000 feeble-minded persons and approximately 300,000 delinquents are systematically tabulated in conjunction with a great body of comparative data. The findings are interpreted in the light of many factors influencing the degree of relationship found.

1:30. Verbal mediation of approach and avoidance responses. SAMUEL H. OSIPÓW, *Syracuse University*.

The study was designed to investigate the role of verbal mediation in the acquisition of preferences. It was hypothesized that verbal mediation occurs by a process similar to Hull's  $r_g$ - $s_g$  mechanism. Subjects first learned to connect a label ( $R_1$ ) to a neutral object ( $S_1$ ). Then,  $R_1$  served as  $S_2$  and stimulated an evaluative response ( $R_2$ ). Finally,  $S_1$  was presented again. It was predicted that  $R_2$  would occur for the experimental groups, thus directing preferential behavior toward the stimulus. Shifts in preference were found for both experimental and control groups, highlighting the importance of often ignored control groups in mediational experiments.

2:00. A trial principle for behavior theory. THORNTON B. ROBY, *Tufts University*.

While single principles of behavior appear to have low viability, they nevertheless serve a number of useful methodological and theoretical purposes. It is suggested that the principle that organisms behave in such a way as to maintain behavioral direction may serve such purposes if direction is suitably defined. Tentative definitions are offered to demonstrate the interpretation of familiar learning phenomena as instances of a direction preserving principle. Procedures for translating the principle into mathematical models are described and illustrated. Finally, criteria are suggested for evaluating behavior principles, and the notion of direction maintenance is examined in terms of these criteria.

2:30. A proposal for a technical thesaurus in psychology. THOMAS B. SPRECHER, *Psychological Service of Pittsburgh*.

A means of organizing information to supplement psychological abstracts is proposed. The development of lists of psychological variables and techniques organized separately as independent and as dependent variables is suggested, and examples of such lists are given. Each independent variable is separately identified as to the effects it has had on each dependent variable, and each dependent variable is associated with those independent variables which the literature has shown to affect it. A separate classification of meth-

ods of recording and measuring serves as a guide to information gathering methodology, and examples of a suggested organization here are given.

3:00. Towards a probabilistic and multivariate psychology. CHARLES F. WRIGLEY, *Michigan State University*.

The paper is a critical appraisal of certain features of the classical experimental method practised in the psychological laboratory, with a consideration of the probabilistic basis of modern psychology, the logic of the balanced designs of the analysis of variance, and the place that multivariate statistical techniques, and especially the rather little known one of canonical analysis, may be expected to play in psychological experimentation.

### Divisions 2 and 9. Symposium: Social Issues and Personal Values in the Teaching of Psychology

1:00-2:50. Parlor 7, Sheraton-Gibson

MARTIN DEUTSCH, *State University of New York Downstate Medical Center*, Chairman

#### Participants:

MARTIN DEUTSCH, *State University of New York Downstate Medical Center*. The teaching of scientific skepticism in the study of social issues.

CHARLES C. JOSEY, *Butler University*. Norms in the teaching of social issues in psychology.

CHARLOTTE EPSTEIN, *University of Pennsylvania*. The role of mass media in the teaching of social issues.

COOPER C. CLEMENTS, *Emory University*. The problems involved in teaching about racial prejudice in a southern university.

ROBERT HEFNER, *University of Michigan*. Values implicit in teaching about the prevention of war.

Discussant: MILTON ROSENBERG, *Yale University*.

### Division 3. Problem Solving

1:00-1:50. Parlors N and O, Netherland Hilton

FRANK RESTLE, *Michigan State University*, Chairman

1:00. Effects of probability of misinformation and number of irrelevant dimensions upon concept identification. VLADIMIR PISHKIN, *VA Hospital, Tomah, Wisconsin*.

The primary purpose of this study was to investigate the effects of probability of misinformative feedback (MF) and number of irrelevant stimulus dimensions upon concept identification performance. A

second aim was to test the purported hypothesis that probability matching occurs under partial reinforcement conditions. The use of MF in this study produced a situation, to a degree, similar to a partially reinforced guessing game. The experiment was designed so that aspects of Restle's theory of selective learning and cue validity could be tested. Analysis of the data was made in order to assess the effect of sex, trials, and relevant dimensions on acquisition of appropriate responses. A number of conclusions regarding the application of Restle's learning model to concept identification were made.

1:10. The effect of redundant relevant stimulus information upon the identification of concepts.

LYLE E. BOURNE, JR. AND ROBERT C. HAYGOOD,  
*University of Utah.*

Concept identification was studied as a joint function of two variables: amount of redundant stimulus information relevant to problem solution and amount of nonredundant stimulus information irrelevant to problem solution. The major findings were: (a) Increases in redundant relevant information improved performance significantly at all levels of irrelevant information. An orthogonal polynomial analysis indicated the improvement to be linear. (b) The facilitating effect of relevant information became more apparent as amount of irrelevant information increased. This was statistically verified by a significant interaction of these variables in the analysis. The results were interpreted within the framework of a mathematical model for concept identification.

1:20. Human behavior in a strictly determined  $3 \times 3$  matrix game. BERNHARDT LIEBERMAN, *Harvard University.*

Previous studies of behavior in game-like situations suggested that individuals may not behave as the game models prescribe. The present study was designed to discover whether intelligent subjects choose minimax strategies when playing a two-person, zero-sum,  $3 \times 3$  matrix game having pure strategies. 15 pairs of Harvard undergraduates played such a game 200 times. Results indicated that subjects learned to adopt strategies that were minimax strategies. On the first 10 trials the subjects chose the minimax strategy 69% of the time; on the last 40 trials the optimal strategy was chosen 93% of the time.

1:30. Animistic responses as influenced by experimentally strengthened associative chains and set inducing instructions. ALVIN J. SIMMONS, *University of Massachusetts.*

A response mediated, generalization account of occurrences of animistic responses by college students

was tested by: (a) varying instruction (respond as "poets" or as "scientists") which were assumed to increase availability of mediators of responses of "living" or "nonliving," respectively, and (b) strengthening associations between test stimuli and presumed mediators and between those mediators as stimuli and responses of "living" or "nonliving." These conditions plus appropriate controls formed a  $3 \times 3 \times 3$  factorial design with 10 undergraduates in each cell. Although only "poet" instructions had significant effects on animistic responses, analysis of reasons given for those responses and of answers to questionnaire items provided support for the response mediated, generalization interpretation.

**Division 3. Symposium: Human Psychophysiological Response to Stress: Successful Experimental Simulation of Real-life Stresses**

1:00-2:50. Hall of Mirrors, Netherland Hilton

MITCHELL M. BERKUN, *United States Army Leadership Human Research Unit, Chairman*

Participants:

JAMES L. BERRY, *United States Army Leadership Human Research Unit.* Psychomotor performance in an ostensibly genuine stress situation.

PATRICK CAPRETTA, *United States Army Leadership Human Research Unit.* The appropriateness of two types of stress-sensitive measures.

RICHARD P. KERN, *United States Army Leadership Human Research Unit.* Emotional adaptation and effectiveness of performance under acute stress.

ROBERT D. McDONALD, *United States Army Leadership Human Research Unit.* The physiological approach: Involvement of the pituitary-adrenocortical axis.

KAN YAGI, *United States Army Leadership Human Research Unit.* Verbal performance measures in stress studies.

Discussant: HOWARD H. MCFANN, *United States Army Leadership Human Research Unit.*

**Division 5. Characteristics of Test Items**

1:00-1:50. Parlor 5, Sinton

JAMES S. KARSLAKE, *Michigan State University, Chairman*

1:00. Refinement of homogeneity in achievement tests. SAMUEL T. MAYO, *Loyola University, Chicago.*

Objectives of the study were (a) to determine if, from a given test, a subset of items fulfilling Loevinger's criterion of homogeneity could be selected with increased homogeneity but with comparable re-

liability and (b) to study the characteristics of such items. The basic data were responses to two achievement tests. It was found that homogeneity was improved in the subsets, while reliability remained approximately the same. Subset items showed a variety of content areas and included both factual and interpretive types of items.

- 1:10. An evaluation of the effect of level of item difficulty on various indices of item-discrimination. JAMES F. ADAMS, *Miami University*.

To determine the effect of item difficulty on method reliability, the following item analysis methods were examined: U-L 27%, U-L 10%, phi, tetrachoric, tetrachoric corrected for nonmedian dichotomization, biserial, point biserial, *t* ratio, and the discrimination index. The reliability of all methods is lowest for easy items and highest for items of median difficulty. The U-L 10%, tetrachoric, and tetrachoric corrected compare the least favorably with the other methods. The other methods produce quite comparable reliabilities at all difficulty levels. An overlooked but important factor in item analysis is the effect of nonnormally distributed criterion scores on item validity. All the methods examined are affected by this factor regardless of the specific assumptions concerning this variable.

- 1:20. Effect of item construction on response set. LOIS LAWRENCE ELLIOTT, *Wright Air Development Center, Texas*.

Effects of item construction on acquiescence response set were examined under different conditions of item content and respondent aptitude. 720 subjects participated in a three variable factorial design. Results indicated that negatively worded, complete statement, multiple choice items produced the least amount of acquiescence; while incomplete statement items, equivalent in content, produced the greatest amount of acquiescence. Low aptitude subjects acquiesced significantly more than high aptitude subjects. *F* scale and personal-neutral items led to greater acquiescence than did personal-prestige and opinion-neutral items. Form, part, part  $\times$  form, form  $\times$  aptitude, and part  $\times$  aptitude were all significant at the Hartley-McHugh .05 experiment-wise rate of error.

- 1:30. The effect of correct response location on the difficulty level of multiple choice questions. ARTHUR MARCUS, *University of Massachusetts*. (Sponsor, Jerome L. Myers)

The influence of position response sets on a multiple choice achievement test was investigated. Data from 434 students were obtained with four alternative test forms of 100 items each. Results indicate that objec-

tive-type multiple choice tests are relatively free of position preferences. This study lends no support to the McNamara and Weitzman hypothesis that difficulty is a function of correct choice placement. Furthermore, a position preference hypothesis is untenable since position response sets were not consistently established. It is suggested that the position of the most plausible distractor more reasonably accounts for any significant response bias than does a position preference.

#### Division 19. Symposium: Man's Expanding Environment: Session II

1:00-4:50. Pavillon Caprice, Netherland Hilton

WALTER F. GREYER, *Aero Medical Laboratory*; AND PHILIP H. MITCHELL, *Office of the Secretary of Defense*, Chairmen

##### A. Space

HOMER E. NEWELL, JR., *National Aeronautics and Space Agency*. Space operations.

JOHN P. STAPP, *Aero Medical Laboratory*. Physiological aspects of space operations.

EDWARD L. BROWN, *Aero Medical Laboratory*. Psychological aspects of space operations.

##### B. The Implications for Military Psychology of Man's Expanding Environment

CHARLES W. BRAY, *Smithsonian Institution*. Retrospect, correlation, and prediction.

#### Division 21. Engineering Psychology III

1:00-1:50. Parlors E and F, Netherland Hilton

JOHN E. KARLIN, *Bell Telephone Laboratories*, Chairman

- 1:00. Human factors studies of push-button characteristics and information processing in keyset operation. R. L. DEININGER, *Bell Telephone Laboratories, Inc., Murray Hill, New Jersey*.

This paper reports a series of studies concerning (a) characteristics of push-button telephone keysets such as configuration, force displacement, feedback, and lettering and (b) information processing behavior with telephone keysets. It is felt that the results and conclusions have general applicability. First, 8 studies attacked instrumentation and methodology problems. Next, 18 studies were undertaken to isolate desirable values of the design parameters in terms of user keying performance and preference. About 250 adults, serving an average of four sessions each, keyed over 17,000 standard telephone numbers. Finally, there were three studies concerning various aspects of the information processing behavior.

- 1:25. Television recording of head and eye observing responses. N. H. MACKWORTH, J. F. MACKWORTH, E. LLEWELLYN-THOMAS, AND S. HOLMQUIST, *Defence Research Medical Laboratories, Toronto, Canada.*

Two procedures are described whereby it is possible to mark on to the changing visual world the position of the line of sight. The first method studies the observing responses made by the eyes alone in searching or watching or tracking particular details in the display; this approach is termed the laboratory method and entails fixing the head. The second method, which can be used in real-life situations outside the laboratory, does permit head movements; therefore, signal-seeking behavior can be studied in relation to head movements as well as to the simultaneous eye movements. Both procedures also record manipulative hand movements if necessary. The stimulus material can be real moving objects or scenes or motion pictures; alternatively, the display can be a static picture or text, although these eye-marker procedures are primarily intended for swiftly moving situations.

#### Films

- 1:00-4:50. Parlors A, B, and C, Netherland Hilton

(For titles, see Films on Saturday)

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#### Division 3. Animal Learning

- 2:00-3:50. Parlors N and O, Netherland Hilton

WINTHROP N. KELLOGG, *Florida State University*,  
Chairman

- 2:00. Effect of extended acquisition training on subsequent extinction of a running habit. D. THERON STIMMEL AND ALVIN J. NORTH, *Southern Methodist University.*

Albino rats were given three different degrees of acquisition training in a runway: 45, 90, and 135 trials. 60 extinction trials followed. Both the 90- and the 135-trial groups showed more rapid extinction of starting (and running times) than did the 45-trial group. These results, together with others reported by other investigators, suggest a curvilinear relationship between the number of acquisition and the number of extinction trials, with overlearning facilitating extinction.

- 2:10. Multiple reversal learning in a multiple T maze. DAVID SULLIVAN AND M. RAY DENNY, *Michigan State University.*

Rats were given three rewarded trials a day in a 4-unit multiple T maze to a criterion of 10/12 correct for the poorest performer and then run on the reversed pattern in the same maze. Subjects on each pattern, LRLL and RLRR, were run each day. Curtains hung at each choice point, and correction was permitted. 10 reversals were given. Criterion was reached in eight days on the initial pattern, and the first day on the tenth. On the first day of reversals 9 and 10, subjects averaged only 1.4 errors when the least expected was one. Learning to learn occurred but was unexplained.

- 2:20. Preconditioning of discriminative stimuli: Negative results. W. A. DETERLINE AND H. E. KLUGH, *Alma College.*

To Skinner, the function of a discriminative stimulus is quite different from that of a classically conditioned stimulus. To Bugelski, this distinction is unnecessary. Current explanations of sensory preconditioning emphasize the eliciting function of stimuli through all three phases of the Brogden paradigm. An indirect test of the Skinner-Bugelski difference in interpretation was attempted by presenting rats with 1,200 pairings of a light and a buzzer. Establishing the buzzer as a discriminative stimulus for an operant response produced no discernible discriminative strength in the light.

- 2:30. The nature of response decrement induced by stimulus change. DALBIR BINDRA AND HANS-JÖRG CLAUS, *McGill University.*

When the situation in which a response is tested differs in some of its stimulus characteristics from the situation in which the response was acquired, typically there occurs a decrement in the strength of the trained response. Bindra's (1959) "novelty-reactions" interpretation attributes such decrement to the interference from reactions-to-novelty evoked by the changed stimulus elements. Consistent with this view, and contrary to the predictions from the formulation of Hull and of Estes, the present investigation shows that response decrement is attenuated in the case of animals that are made familiar with the test situation before initiating the training.

- 2:40. The joint effect of probability and magnitude of reward on behavior in a T maze. WINFRED F. HILL, *Northwestern University.*

Three groups of rats received 24 forced trials in a T maze followed by 8 free trials. For one group, the probabilities of reward on the two sides differed; for another, the magnitudes differed; and for a third, there was a higher probability on one side and greater magnitude on the other. Prediction of the joint effect

of magnitude and probability on choices by using the two separate effects was less satisfactory than a prediction from the ratio of expected gains. Predictions from expected gains worked well for both choice and speed data.

- 2:50. The effect of intertrial interval on the discrimination of single-alternation intermittent-reinforcement schedules. SANFORD KATZ, *Williams College*.

Rats have demonstrated learning of single-alternation reinforcement schedules by running slower on nonreinforced trials than on reinforced trials. Such demonstrations create the problem of identification of the discriminative stimuli. The hypothesis that the stimulus aftereffects of reinforcement and nonreinforcement served the differential cue function was tested by comparing massed practice (35-sec. intertrial interval) with spaced practice (30-min. intertrial interval). The prediction was made that only massed subjects would form the discrimination. The results indicate that, although massing of training facilitates the formation of the discrimination, spacing does not eliminate the possibility of discrimination formation. Possible interpretations are discussed.

- 3:00. An investigation of precision timing behavior in the rat. C. J. STELTER, H. W. BARNES, AND L. E. HOMME, *University of Pittsburgh*.

Water deprived rats were trained to press a bar for durations as precise as .50 seconds minimum and .56 seconds maximum. No exteroceptive stimuli were presented to aid in this discrimination. Such responses were promptly tractable to changes in minimum force and duration requirements. A general increase in duration was noted throughout the experimental period. Variability of R durations increased with increased minimum required duration under no-limit conditions. Sudden increases in variability, termed blowup, were controllable by such operations as bar weighting, imposition of maximum duration limit, and spacing. Rate was related to minimum required duration but not to relative frequency of reinforcement.

- 3:10. The effect of different types of infantile trauma upon delay ability in the mouse. ALEX DARBES, *Marshall College*.

71 mice, part of the homozygous strain of C57 Black/6 from Bar Harbor, were divided into 11 experimental groups based on a  $2 \times 2 \times 2$  factorial design utilizing the variables of food deprivation and training at two different early age periods. The training consisted of 20 trials, one trial per day, in a simple T maze. Mice were tested for their delay ability in a simple T maze at prescribed intervals, either 30

or 50 days after the trauma period. Analysis of variance results indicate that only training experience serves to retard the ability to delay in the mouse.

- 3:20. The delayed response performance of raccoons as a function of spatial and nonspatial cues. K. M. MICHELS AND DONALD R. BROWN, *Purdue University*.

It has been demonstrated that the presence of non-spatial visual cues results in an increment in the delayed response performance of primates and children. The results of this study indicate that a sub-primate mammal, the raccoon, can use visual cues (differences in size, brightness, and form) to mediate delays of varying lengths. Performance with visual and spatial cues was significantly superior to performance with spatial cues only and performance with spatial and visual cues opposed. It was found that the extent to which visual cues facilitated performance varied with length of delay; such cues were most efficacious at longer intervals.

#### Division 14. Symposium: Breakthroughs in Communication

2:00-3:50. Parlors L and M, Netherland Hilton

LAURENCE SIEGEL, *Miami University*, Chairman

##### Participants:

C. RAY CARPENTER, *Pennsylvania State University*.

Communications in teaching-learning operations.

JOHN M. PARSEY, *Michigan State University*. Educational communications in a social setting.

BURLEIGH B. GARDNER, *Social Research, Inc.* Communications in marketing and advertising.

Discussant: RYLAND W. CRARY, *National Educational Television and Radio Center*.

#### Division 21. Engineering Psychology IV

2:00-2:50. Parlors E and F, Netherland Hilton

PAUL G. CHEATHAM, *Office of Naval Research*, Chairman

- 2:00. Target recognition as a function of resolution. CHARLES A. BAKER, *Wright Air Development Center*.

This study was performed to determine the speed and accuracy with which forms can be recognized under several conditions. Results show an increase in time and errors (*a*) with an increase in the difference between the amount of distortion of the briefing form and of the "target" form and (*b*) with an increase in the number of irrelevant forms. 70% of the time and the error variance can be accounted for in terms of

the ratio of the target area to the area of the smallest circle which would enclose that target.

- 2:08. Separate pitch rate information and combined pitch rate information in the pitch and depth control of a simulated submarine. BRET A. CHARIPER, *Electric Boat Division, General Dynamics Corporation.*

This experiment was conducted to determine whether pitch rate information presented in addition to the conventional information improved the pitch angle and depth control of a simulated submarine. It was found that performance in maintaining pitch angle and keeping depth was better with pitch rate information than without it and that to be of assistance the indication of pitch rate need not be numerical. It was also found that both task performances were better with a combined pitch rate/pitch angle indicator than with a separate pitch rate indicator located to the left of the pitch angle indicator.

- 2:16. Some factors affecting visual search time for symbols on a large visual display. CHARLOTTE A. CHRISTNER, HOWARD G. SCHUTZ, AND HORACE W. RAY, *Battelle Memorial Institute.*

In order to determine the effect of symbol density, number of symbol types, and type of background on visual search time on a large visual display, a factorially designed experiment was conducted using 10 male subjects. There were four levels of symbol density 60, 120, 240, and 480; three of number of symbol types 5, 10, and 20; and two of background, clear and map. Time measurements in log seconds, analyzed by analysis of variance and multiple regression techniques, revealed significant effects for all three display variables and a density  $\times$  type interaction. A response surface based on predicted times was prepared.

- 2:24. An investigation of population stereotype: The interaction between horizontal and vertical plane lever control and visual displays in azimuth and elevation. RICHARD G. LAZAR, *United States Army Ordnance Human Engineering Laboratory, Maryland.* (Sponsor, Irving A. Woods)

The study sought to determine population stereotypes or "natural" movements involved in the operation of levers designed to control azimuth and elevation in a visual display consisting of a model of a missile. A further object sought to determine whether levers in the horizontal or vertical plane effected the better control. Speed of reaction and errors were recorded on 128 subjects. The results emphasize findings previously reported in the literature that lever controls should move in a direction consistent with the movement of the display.

- 2:32. Comparison of cross polarized and plain white lighting. J. RUOCO AND C. P. SEITZ, *Grumman Aircraft Engineering Corporation.*

An empirical comparison of plain white light and cross polarized white light at low intensity levels (.5 fc.) was made. Persistence time and target visibility threshold were measured. Persistence was significantly longer under the plain white light condition (40 seconds compared to 52). There was no difference in target visibility threshold.

- 2:40. The effect of direction of reading and fixation point on error and exposure time in the quantitative reading of instrument panels. BERNARD L. RYACK AND HARVEY LIFTON, *University of Massachusetts.*

Simulated instrument panels consisting of rectangular arrangements of four dials were read by the subjects. Two directions of reading the dials were combined with each of three locations of the fixation point. Neither the direction of reading nor the location of the fixation point influenced the amount or distribution of error. A left to right, top to bottom direction of reading required significantly shorter exposure times than a right to left, bottom to top direction. Significantly shorter exposure times were required with a fixation point at the right than with a fixation point at the left or center of the panel.

#### Division 2. Panel Discussion: The National Science Foundation Summer Programs for College Teachers of Psychology

3:00-3:50. Parlor 7, Sheraton-Gibson

WILBERT J. McKEACHIE, *University of Michigan,*  
Chairman

#### Division 21. Symposium: Human Factors in Manipulative Skill in Adverse Situations

3:00-4:50. Parlors E and F, Netherland Hilton

JOHN LYMAN, *University of California,* Chairman

##### Participants:

JAMES BRADLEY, *WADC.* Manipulation in restricted spaces.

R. C. GOERTZ, *Argonne National Laboratory.* Remote manipulation.

HILDE GROTH, *University of California.* Manipulation with arm prostheses and handcoverings.

JACK KOBRICK, *Quartermaster Research and Development Center.* Manipulation in cold environments.

**Division 3. Drugs, Anoxia, and Learning**

4:00-4:50. Parlors N and O, Netherland Hilton

LARRY STEIN, *VA Research Laboratory in Neuropsychiatry*, Chairman

4:00. The effect of anoxia upon one-trial discrimination reversal in white rats. LOH SENG TSAI, FRANK P. CHANDLER, AND GEORGE A. GESCHIEDER, *Tulane University*.

Four adult white rats were put in a decompression chamber simulating 22,000 foot altitude for three hours. Their average scores in solving 30 discrimination reversals in a T maze compared with four controls were: 474.25 vs. 374.75 trials, 98.25 vs. 58 errors, and 56.5 vs. 42.75 days. Relative total numbers of one-trial solutions were 1 vs. 15 during the first 10 problems, 5 vs. 30 during the first 15 problems, and 45 vs. 47 during the last 15 problems. Effect of anoxia on one-trial reversal was at first difference in kind, but then in degrees. The results are important to space travel and learning theories.

4:10. Competitive response paired-associate learning and phrenotropic drug effects. ALBERTO DIMASCIO AND JONATHAN BROWN, *Massachusetts Mental Health Center*.

The effects of four phrenotropic agents at varying dose levels on learning competitive paired-associate lists were examined. The competitive paired-associate task was shown by Spence and associates to be sensitive to "anxiety" levels such that a reduction of "anxiety" should result in improved performance. It was noted that: (a) PAL performance was impaired by one "anxiety-reducing" compound, (b) improved by another "anxiety-reducing" compound, (c) improved by a third compound that did not cause a subjective lowering of "anxiety." Dosage level was also an important determinant of PAL performance. The implications of these findings with drugs on determinants of competitive response performance are discussed.

4:20. Effects of chlorpromazine on water maze learning, retention, and stereotyped behavior in the rat. JAMES C. MITCHELL AND FREDERICK A. KING, *Ohio State University*.

Pretrial submersion of rats swimming in a water T maze results in the development of stereotyped behavior in a certain percentage of subjects. Administration of chlorpromazine was hypothesized to eliminate this stereotyped behavior through a reduction in motivational strength. However, chlorpromazine produced behavioral disorganization and a decrement in learning and retention of both stereotyped and non-stereotyped responses. Untreated controls and animals receiving pentobarbital sodium as a control for ataxia

did not show a decrement in performance. Thus, the effect of chlorpromazine is not associated with ataxia, nor with a reduction in motivation. It is suggested that chlorpromazine may interfere with sensory input or utilization of sensory data.

4:30. The influence of drugs on memory fixation time. AUSMA RABE AND R. W. GERARD, *University of Michigan*. (Sponsor, W. C. Clark)

Many minutes elapse between the arrival of sensory messages in the brain and the establishing of an enduring memory trace. This fixation time can be measured by varying the interval between each learning period and a following electroconvulsive shock. Since meprobamate prolongs imprinting in ducklings, we tried it on the fixation period of rats for avoidance conditioning. With increasing doses, meprobamate progressively slowed learning; but an ECS at one or five minutes after massed runs was ineffective, rather than more so, after 60 mg./kg. In contrast, barbiturates did increase the ECS effect but did not slow the initial learning.

**TUESDAY EVENING, SEPTEMBER 8****Division 5 and Psychometric Society. Dinner and Invited Address**

6:00-8:50. Parlors A, B, C, and D, Netherland Hilton

CLYDE H. COOMBS, *University of Michigan*; AND  
FREDERIC M. LORD, *Educational Testing Service*,  
Co-Chairmen

JOHN M. STALNAKER, *National Merit Scholarship Corporation*. Notes from a Worker in the Vineyard.

**Divisions 2 and 14. Symposium: Current Trends in Teaching Psychology Within Industry**

7:00-8:50. Ballroom, Sinton

ROBERT V. HAMILTON, *Boeing Airplane Company*,  
Chairman

**Participants:**

DAVID A. EMERY, *General Electric Company*. Psychology in the General Electric advanced management course.

JOSEPH A. OLMSTEAD, JR., *Eli Lilly and Company*. Social psychology in industry.

MILTON L. BLUM, *City College of New York*. The executive appraisal approach.

HARRY LEVINSON, *Menninger Foundation*. The clinical approach to teaching psychology.

### Division 19. Symposium: Man's Expanding Environment: Session III

8:00-9:50. Pavillon Caprice, Netherland Hilton

LYNN E. BAKER, *Department of the Army*, Chairman

PAUL SIPLE, *Department of the Army*. The Polar Environment.

Discussant: ROBERT GLASER, *University of Pittsburgh*. Psychological Implications.

### Division 14. Invited Address

9:00-10:50. Ballroom, Sinton

MORTIMER R. FEINBERG, *City College of New York*, Chairman

ALFRED J. MARROW, *Harwood Manufacturing Company and New York City Commission on Racial Integration*. Social Psychology in Industry and Government.

## WEDNESDAY MORNING, SEPTEMBER 9

### Division 1. Symposium: The Problem of Experimenter Bias

9:00-10:50. Hall of Mirrors, Netherland Hilton

ROBERT ROSENTHAL, *University of North Dakota*, Chairman

#### Participants:

DONALD T. CAMPBELL, *Northwestern University*. Systematic errors to be expected of the social scientist on the basis of a general psychology of cognitive bias.

WALTER R. REITMAN, *Carnegie Institute of Technology*. Experimenter bias as an interaction phenomenon.

ROBERT ROSENTHAL, *University of North Dakota*. Research in experimenter bias.

MARTIN ORNE, *Harvard University*. The demand characteristics of an experimental design and their implications.

### Division 3. Retention and Transfer

9:00-9:50. Parlors L and M, Netherland Hilton

MAYNARD W. SHELLY, *Office of Naval Research*, Chairman

9:00. Verbal behavior and generalization. E. J. LOTSOFF, *University of California, Los Angeles*.

This study is concerned with the conditioning of a verbal response and the degree of generalization of

the verbal response to a written response. Two groups of subjects were conditioned using reinforcing stimuli "good" and "bad" when the response "I" was emitted in the making up of a sentence; a third group was employed as a control. After 80 conditioning trials the subjects were asked to write 20 sentences beginning with one of the six personal pronouns. Analysis of the data indicated a significant difference among the three groups for the conditioned verbal response. No evidence was found to indicate that generalization to a written response occurred as a function of prior verbal conditioning.

9:10. Transfer task difficulty as a factor in demonstrating acquired distinctiveness. WENDELL E. JEFFREY AND RICHARD S. BOGARTZ, *University of California, Los Angeles*.

This experiment was designed to demonstrate that positive transfer following labeling pretraining when compared with a group given same-difference identification training with the same stimuli will depend on the difficulty of the transfer task. Subjects receiving labeling training did significantly better on a sorting task with the same stimuli than did subjects who received same-difference identification training. A significant but much smaller difference was obtained between those subjects who received labeling training and those who had same-difference identification training when the transfer task called for same-difference identification. Implications for conflicting data in the literature are pointed out.

9:20. Remembering the present states of a number of variables. DOUWE B. YNTEMA AND GAYLE E. MUESER, *Massachusetts Institute of Technology*.

The subject attempted to remember the present states of several variables whose states changed frequently and at random. He was read a list of messages, each telling him what state one of the variables had assumed, and from time to time was asked for the present state of one of them. In one case, all variables ranged over the same set of four states. In the other, each variable had its own exclusive set of four states. Performance was better in the second case, although the information the subject was asked to retain was formally the same in both cases.

9:30. The influence of number of different stimulus categories on short-term retention. RICHARD H. HENNEMAN AND KENNETH E. LLOYD, *University of Virginia*.

This study is one of a series investigating the efficiency of recall in sequential tasks requiring that successively occurring stimuli be remembered for short periods of time. Single words from different

categories were presented successively and had to be recalled when the category name was presented. Four groups of subjects heard words from 6, 8, 10, and 12 categories, respectively. In line with the hypothesis, the results indicate that, when the average number of words being retained at any given recall point is held constant, the number of categories employed in the task does not affect performance.

### Division 3. Special Session: Experimental Analysis of Behavior

9:00-11:50. Ballroom, Sinton

THOM VERHAVE, *Eli Lilly and Company*. Chairman

(Participants to be announced.)

### Division 5. Quantitative Developments

9:00-9:50. Sheraton Room, Sheraton-Gibson

JAMES KAMMAN, *University of Illinois*,  
Chairman

9:00. Attitude scaling: The ultimate criterion.

JAMES C. NAYLOR AND NORMAN L. VINCENT,  
*Purdue University*. (Sponsor, B. J. Winer)

If one examines the three basic methods of constructing attitude scales in terms of how well they approximate the desired goal of a unidimensional ratio scale, certain inadequacies become apparent. Neither the Thurstone, Likert, nor the Guttman procedures produces a satisfactory ratio scale. In fact, the Guttman method will not necessarily produce a scale with the items in the "true" rank order. The Likert procedure may also be questioned in terms of its use on a group of items with differing scale values. A combination of the phi coefficient, paired comparisons, and the Thurstone method eliminates the above problems.

9:10. A mathematical model for emotional arousal patterns. W. F. DOSSETT AND W. W. GRINGS,  
*University of Southern California*.

On the assumption that emotional arousal patterns depend greatly on two parameters—stimulus intensity and organismic sensitivity—a differential equation was set up to describe the rate of change of excitation for a single instance of arousal. The solution to the equation yielded a family of functions related to the gamma distribution. To test the hypothesis that the form of an arousal pattern conforms to this function, several GSRs, obtained in this laboratory, were shown to be satisfactorily described by the function. This work has led to the possibility of establishing a general stochastic system for autonomic activity.

9:20. A "triple item analysis" technique in constructing educational-vocational interest scales.

BENNO G. FRICKE, *University of Michigan*.

The first analysis of Opinion, Attitude, and Interest Survey (OASIS) responses of 3,080 freshmen was the standard one in which responses of high and low interest groups (i.e., business, humanities, social science, physical science, biological science) were compared; this is the "criterion" item analysis. The second analysis compared responses of criterion cases who were incorrectly classified on the basis of the original "criterion" scale; this is the test-miss or "correction" item analysis. The third analysis, the "suppression" item analysis, compared responses of high and low scoring subjects on the original scale. Three subsets of items were selected for each of the five interest area scales.

9:30. Analytic determination of common factors.

HENRY F. KAISER AND KERN W. DICKMAN, *University of Illinois*.

Modifications of Carroll's original analytic criterion for rotation suggested by Saunders, Kaiser, and Carroll are discussed. Based on these considerations, a new criterion is proposed. This criterion is related to Saunders' oblimax method and provides one possible resolution for the simplicity parameter of Carroll's oblimin class of solutions. Examples of the application of this criterion are presented. A computational program is outlined.

### Division 14. Paper Reading Session III

9:00-9:50. Parlors 4 and 5, Sheraton-Gibson

E. B. KNAUFT, *Aetna Life Insurance Company*,  
Chairman

9:00. The use of published norms in the industrial setting. EDWIN C. NEVIS AND JAMES W. PARKER,  
*Personnel Research and Development Corporation, Cleveland, Ohio*.

This study compares the male norms published in the manual for the Edwards Personal Preference Schedule (based on 760 college students) with those obtained from a group of 307 adult men tested while undergoing assessment for selection or upgrading purposes. Differences which are significant at the 1% level or better were found on 9 of the 15 variables. These differences were consistent with the expectation of less response-freedom and greater social desirability among the employment-tested group. The results are presented in detail, and three important conclusions in reference to misuse of published norms by test users are discussed.

- 9:15. Determinants of job attitudes in middle-management personnel. PAUL A. SCHWARZ, *American Institute for Research*. (Sponsor, John C. Flanagan)

The critical incident technique was used to identify specific elements of the industrial job environment that act as positive and negative reinforcers for third-level supervisory personnel. Each of approximately 400 supervisors was asked to report a recent incident that "stimulated him to contribute even more" and a second recent incident that interfered with his "efforts to carry out his job effectively." The data were classified according to the specific element reported and were interpreted in the light of the frequency with which each was named.

- 9:30. The "expressive values" of institutions, products, and brands. WILLIAM D. WELLS, *Rutgers University*.

An institution, product, or brand may be said to have two kinds of values to the consumer: "functional" values and "expressive" values. Functional values represent the degree to which the institution, product, or brand fulfills its overt mission. Expressive values represent the role of institutions, products, or brands in self-expression. This paper describes two objective methods for measuring expressive values and reports the results of studies of colleges, department stores, artificial hair coloring, smoking habits, coffee brands, and gasoline brands. Special problems encountered in this kind of research are described, and the role of expressive values in consumer choice is discussed.

#### Division 19. Invited Address

- 9:00-9:50. Parlors A, B, C, and D, Netherland Hilton

HOWARD PARRIS, *Aero Medical Laboratory*, Chairman

RICHARD W. HIGHLAND, *Hughes Aircraft Company*. Approaches to Improving the Maintainability Characteristics of Military Electronic Equipment.

Discussants: JOHN D. FOLLEY, *American Institute for Research*; ROBERT G. DEMAREE, *Martin Aircraft Company*; AND LEROY D. PIGG, *Aero Medical Laboratory*.

#### Division 19. Invited Papers

- 9:00-9:50. Parlors N and O, Netherland Hilton

ROBERT MURPHY, *Aero Medical Laboratory*, Chairman

CLINTON H. MAAG, *Office of Naval Research*. Performance Decrement Under Conditions of Nitrogen Narcosis.

N. H. MACKWORTH, *Defence Research Medical Laboratory, Toronto, Canada*. Recent Advances in Prolonged Vigilance.

#### Division 3. Animal Motivation II

- 10:00-10:50. Parlors N and O, Netherland Hilton

DONALD J. LEWIS, *Louisiana State University*, Chairman

- 10:00. Effects of water deprivation upon heart rate and performance in rats. DAVID BÉLANGER, *Université de Montréal*.

According to activation theory, the relation between level of activation and hours of deprivation is a monotonic one, but the relation between level of activation and habit strength is best described by a curve having the shape of an inverted U. Water deprived rats were studied in a Skinner box situation. Results showed a monotonic relation between heart rate and deprivation up to the limit of deprivation (72 hours) in this experiment. Moreover, in accordance with activation theory, the curve expressing the relation between number of lever presses and hours of deprivation had the form of an inverted U.

- 10:10. Changes in heart rate associated with positive and negative reinforcement and their modification by reserpine. BERNICE M. WENZEL, *University of California, Los Angeles*.

Because reserpine tends to weaken responses acquired with negative reinforcement, and because maintenance of such responses is hypothesized as being mediated by autonomic changes, heart rate, selected as such a change, was recorded in cats during the CS for an avoidance response and the CS for a food getting response, with reserpine and with placebo material. The two CSs produced significantly different heart rate changes—acceleration during the food CS and deceleration during the avoidance CS—but reserpine affected only the former. Hence, the inadequacy of avoidance responding cannot be correlated with an effect of reserpine on conditioned heart rate.

- 10:20. The effect of neonatal hyperoxia on sexual drive and emotionality. MARVIN GREENBAUM AND DAVID L. GUNBERG, *University of Oregon Medical School*.

It is known that neonatal hyperoxia may have deleterious effects on visual development in several species, but may it also have a toxic effect on behavioral and emotional vectors? The sexual responsiveness and emotionality of adult rats was studied after they had been subjected either to hyperoxia,

enucleation of the eyes, or hyperoxia and enucleation in infancy. All three treatments differed fairly consistently from untreated controls. The treated groups were less sexually responsive (longer copulatory latencies and smaller percentage of copulators) and more emotional (more defecation and activity, larger adrenals).

10:30. "Emotionality" in the open-field as a function of age, adaptation, and traumatic shock. D. K. CANDLAND, *Princeton University*.

A normative study, using seven groups of rats from 18 to 100 days of age, shows that both activity and defecation in the open-field increase directly with age, although plateaux are reached for different measures at different ages. Adaptation to the test by retesting is rapid and depends upon the number of experiences with the open-field and the age of the rat. When adaptation is completed, a strong shock experience significantly decreases activity and increases defecation in the open-field.

### Division 3. Cortical Processes

10:00-10:50. Parlors L and M, Netherland Hilton

HARRY W. BRAUN, *University of Pittsburgh*,  
Chairman

10:00. Changes in brain chemistry of the rat following experience. DAVID KRECH, MARK R. ROSENZWEIG, EDWARD L. BENNETT, AND CHARLES L. LONGUEIL, *University of California*.

Having shown that brain cholinesterase activity is related to learning ability and is hereditarily determined, we have now investigated effects of experience on cholinesterase level. Four conditions were examined: normally caged rats (a) systematically handled, (b) chronically underfed, (c) trained on an *unweg* problem under food deprivation, and (d) rats with enriched cage life trained on several problems without deprivation. The results were positive: enriched cage life plus extended training being most effective in raising cholinesterase, *unweg* training next, underfeeding next, and handling least. To our knowledge this is the first demonstration of a change in brain biochemistry following training.

10:10. Effects of cortical stimulation on habit acquisition: Confirmatory data. NEAL M. BURNS AND STIRLING P. STACKHOUSE, *Naval Air Materiel Center, Philadelphia, Pennsylvania*, and *Parke, Davis and Company, Detroit, Michigan*.

In earlier work, learning deficits occurred when bursts of electrical stimulation were delivered to the cerebral cortex. Current was delivered to the rat simultaneous with food reinforcement. The present

experiment was designed to study the means by which cortical stimulation interfered with habit acquisition. As previously reported, bipolar electrodes were implanted in the cortices of albino rats. Instead of the continuous reinforcement schedule used in the earlier investigation, a fixed interval schedule was now used (FI 12"). With other variables held constant, the learning deficit produced with a 12-second contingency was similar to that produced with continuous reinforcement. The results indicate the importance of contingency for consolidation of the memory trace.

10:20. Effect of epileptogenic lesions of frontal cortex on learning and retention in monkeys. JOHN S. STAMM, *Institute of Living, Hartford, Connecticut*.

Focal epileptogenic lesions were obtained by placing aluminum hydroxide cream bilaterally over the frontal lobes. Electroencephalograms were recorded preoperatively and at monthly intervals. Monkeys were trained on an alternation task and given retention tests at three-week intervals. Subjects learned the task preoperatively within 180 trials and showed no deficit during postoperative retention tests. Subjects who learned the task after the onset of epileptic activity required at least 420 trials but had good retention. Subjects in whom empty disks were placed on the cortex performed as well as unoperated monkeys.

10:30. Cerebral electrical activity and learning. VICTOR MILSTEIN, *University of Oregon Medical School*.

Penfield has proposed that a centrencephalic system exists which functions in the recording of perceptions, integration of the sensory and motor systems, recollection of past experiences. Furthermore, he has indicated that an epileptiform discharge would interfere with the integrity of this system. Consequently, the following hypothesis was tested: in certain epileptics in whom flickered light evokes pathological activity on the electroencephalogram; learning will be impaired in the presence of these evoked discharges but not when photic stimulation fails to elicit them. The results indicate that the presence of epileptiform activity has little effect on learning paired adjectives and forming a conditioned avoidance response.

### Division 5 and the Psychometry Society. Symposium: The Structures in Sequences of Responses

10:00-11:50. Sheraton Room, Sheraton-Gibson

GUSTAVE J. RATH, *IBM Research Center, Yorktown Heights, New York*, Chairman

## Participants:

WARD EDWARDS, *University of Michigan*. Sequences of decisions.

ISRAEL GOLDIAMOND, *Southern Illinois University*. Psychophysical sequences.

ALPHONSE CHAPANIS, *Johns Hopkins University*. Methodological considerations.

GUSTAVE J. RATH, *IBM Research Center*. High-speed digital computers.

#### Division 14. Symposium: Experimental Foundations of Industrial Psychology

10:00-11:50. Roof Garden, Sheraton-Gibson

JACK VERNON, *Princeton University*, Chairman

## Participants:

JOHN L. KENNEDY, *Princeton University*. Gaming theory and its relation to industrial psychology.

PAUL FITTS, *University of Michigan*. Sensory aspects of industrial psychology.

WILLIAM MCGEEHEE, *Fildcrest Mills*. Training and industrial psychology.

#### Division 19. Invited Address

10:00-10:50. Parlors A, B, C, and D, Netherland Hilton

HENRY A. IMUS, *United States Naval School of Aviation Medicine*, Chairman

HOWARD E. PAGE, *Office of Naval Research, London*. Military and Related Psychology in Other Countries.

DISCUSSANTS: FRANK A. GELDARD, *University of Virginia*; N. H. MACKWORTH, *Defence Research Medical Laboratory*; ROGER W. RUSSELL, *Indiana University*; AND FRANKLIN V. TAYLOR, *Naval Research Laboratory*.

#### Division 1. Symposium: The Nature of Hypnosis

11:00-12:50. Hall of Mirrors, Netherland Hilton

ROY M. DORCUS, *University of California*, Chairman

## Participants:

THEODORE X. BARBER, *Harvard University*. Experimental evidence for a theory of hypnosis.

CLARENCE LEUBA, *Antioch College*. Theories of hypnosis: A critique.

G. H. ESTABROOKS, *Colgate University*. The future of hypnosis.

DISCUSSANTS: MAGDA B. ARNOLD, *Loyola University*; ERNEST R. HILGARD, *Stanford University*; FRANK A. PATTIE, *University of Kentucky*; AND FRANK J. KIRKNER, *University of California*.

#### Division 3. Human Learning II

11:00-11:50. Parlors L and M, Netherland Hilton

NORMA F. BESCH, *Ohio State University*, Chairman

11:00. Determinants of sequential predictions. JOHN R. HAYES AND JEAN B. HENSON, *United States Naval Research Laboratory, Washington, D. C.*

Some authors have claimed that, in the Humphreys-type probability learning situation, the subjects' predictions are independent of stimuli more than two back in the stimulus sequence. In the present experiment, subjects guessed whether or not a light would be lit in an extended sequence of trials. The probability that the light would be lit was varied systematically during the sequence. Predictions were shown to be influenced by stimuli as much as eight places back in the stimulus sequence.

11:10. The effect of percentage of responses reversed on reversal learning. E. C. WORTZ AND A. C. MCTEE, *Convair (Astronautics) Division of General Dynamics and University of Texas*.

35 human subjects were required to learn a correct switch position (left-right) in response to a pattern of two lights in a random series of all possible (two light) patterns in a  $3 \times 2$  light matrix. After reaching criterion, the correct response, for a certain percentage of the lights, was reversed. The difficulty of reversal was investigated for groups of subjects with 20%, 40%, 60%, 80%, or 100% of the responses reversed. A curvilinear relationship was found between the difficulty of reversal (number of trials to learn the altered condition) and the percentage of S-R relationships changed. The results are discussed in terms of the discrimination hypothesis.

11:20. Estimated probability of success as a function of variability of performance. JAMES C. DIGGORY AND BENA OSTROFF, *University of Pennsylvania*.

Subjects progressed toward a fixed performance goal in a series of ten trials with performance curves experimentally controlled to produce fixed trend lines or large and small fluctuations from the trend lines. Introducing fluctuation depressed estimated probability of success more when performance level was high than when it was low. Large fluctuations produced higher estimated probability of success than did small ones, this difference being most marked when performance level was low. It appears that, with performance close to the goal, negative fluctuations are emphasized; but, when performance is far from the goal, positive fluctuations have more weight.

11:30. Likelihood judgments in a two-choice probability learning situation. NORMAN H. ANDERSON AND RICHARD E. WHALEN, *University of California, Los Angeles, and Yale University.*

54 subjects rated, on each of 350 successive trials, the likelihood that one of the two lights which they had predicted would actually flash. Light frequencies were random 50:50, 65:35, and 80:20 in the three conditions. Typical "matching behavior" was obtained for frequency of predictions. During a consecutive run of a given light, both frequency and likelihood ratings increased in the early trials, decreased in the later trials of a run. The likelihood judgments are more sensitive to trial-to-trial changes in response strength; obtaining them leaves undisturbed the standard frequency results obtained in this situation.

### Division 3. Taste and Smell

11:00-11:50. Parlors N and O, Netherland Hilton

BERNICE M. WENZEL, *University of California Medical School, Los Angeles*, Chairman

11:00. A comparison of liquid reinforcements for monkeys. JOHN J. BOREN AND HARLEY M. HANSON, *Merck Institute for Therapeutic Research, West Point, Pennsylvania.*

Rhesus monkeys were given thorough training in a lever pressing apparatus on a five-minute fixed interval schedule of reinforcement. The monkeys were then given various reinforcements (fruit juices, water, fruit juices and water plus sucrose, sweetened condensed milk, and evaporated milk) to study the effects upon the lever pressing behavior. In addition, the home cage diet was changed to crackers and water to determine if a plain diet would enhance an orange juice reinforcement. The results were evaluated from the over-all response rate and the local rates within one-minute sections of the reinforcement schedule. Different reinforcements produced changes not only in over-all rate but also in the shape of the fixed interval scallop.

11:10. Interaction of taste qualities. JOSEPH M. KAMEN AND FRANCIS J. PILGRIM, *Quartermaster Food and Container Institute for the Armed Forces.*

Four experiments were conducted on how the perceived intensity of supraliminal concentrations of one type of taste stimulus (primary stimulus) is affected by various concentrations of another type of taste stimulus (secondary stimulus). The primary and secondary stimuli were, respectively: sucrose and citric acid, citric acid and sucrose, sucrose and caf-

feine, caffeine and citric acid. There was no evidence that citric acid had any effect upon perceived intensity of sweetness, but sucrose did reduce sourness. The masking of sweetness by caffeine was barely statistically significant. The intensity of bitterness was greatly increased by citric acid.

11:20. The effect of practice and instruction on olfactory thresholds. TRYGG ENGEN, *Brown University.*

Olfactory thresholds for sniffing were measured with a forced-location method of limits, a method believed by some to be semantically better than yes-no methods. Although reliable differences were obtained between odorants, thresholds were appreciably lowered by practice and even more by changes in the observer's subjective criterion, manipulated through instruction. Odorants varied considerably in the extent to which they were susceptible to such effects, and there was transfer between qualitatively different odorants. The present results indicate that practice and instruction are at least as important as the method in measuring and comparing psychophysical thresholds.

11:30. Investigation of olfactory adaptations. HOWARD G. SCHUTZ AND RICHARD S. LAYMON, *Battelle Memorial Institute.*

To determine characteristics of olfactory adaptation and cross-adaptation, 10 subjects rated the supraliminal intensity of 30 odorants every 30 seconds over a 10-minute period in an odor booth. Information on cross-adaptation was obtained by ratings of a second odorant after the 10-minute adaptation. Results indicated high reliability for the supraliminal rating technique and distinct curves of adaptation. Significant correlations were found between two physical variables—surface tension and vapor pressure—and rate of adaptation. No evidence was found for cross-adaptation. The results are discussed in relation to other adaptation results and the theory of odor adaptation.

### Divisions 15 and 19. Invited Address

11:00-12:50. Pavillon Caprice, Netherland Hilton

ARTHUR A. LUMSDAINE, *American Institute for Research*, Chairman

SIMON RAMO, *Thompson Ramo Wooldridge, Inc.* The Impact of Advancing Technology on Methods in Education.

Discussants: ARTHUR W. MELTON, *University of Michigan*; AND B. F. SKINNER, *Harvard University.*

## WEDNESDAY AFTERNOON, SEPTEMBER 9

## Division 3. Brain Stem Stimulation

12:00-12:50. Parlors L and M, Netherland Hilton

WARREN W. ROBERTS, *University of California, Los Angeles*, Chairman12:00. Discrimination of central and peripheral aversive stimuli. W. J. COPPOCK, *University of Oregon Medical School*.

The similarity between aversive behavior evoked by stimulation of certain midbrain structures and that evoked by peripheral stimulation was examined by training three cats with implanted electrodes. Two cats had paws and midbrain alternately stimulated. The third had two different midbrain structures stimulated. Cats could terminate stimulation by a press on the correct lever. Discriminations between medial lemniscus and paw, spinothalamic tract and paw, and central grey and medial lemniscus were readily established. It appears that to the cat the effects of centrally applied aversive stimulation are quite different from those of peripheral aversive stimulation, or become so with little training.

12:10. The effects of brain stem stimulation on hindleg movements in the hooded rat. R. EMMERS, *Syracuse University*.

Physiological psychologists have recently utilized certain nonspecific reticular mechanisms in explaining a variety of behavioral problems. Data exemplifying the nonspecific nature of the reticulum have been obtained mainly from the cat and monkey. Neuroanatomical differences would, however, lead one to suspect that in lower animals the brain stem reticulum functions in a more specific manner. The present research was designed to study the influence of the rat brain stem on the animal's hind leg movements. Results indicated that electrical stimulation of discrete brain stem sites modified these movements in particular patterns. This indicates that the rat brain stem is quite specific in function.

12:20. Two kinds of escape from midbrain stimulation. R. P. TRAVIS AND J. OLDS, *University of Michigan*.

In a study of escape behavior produced by electric stimulation of the tegmentum, two systems with radically different thresholds and different responses to drugs have been observed. If electrodes are placed in a dorsomedial area just below the tectum, thresholds of escape are very low and doses of chlorpromazine or morphine which suppress self-stimulation in other brain areas fail to counteract escape behavior.

If electrodes are placed ventrally so as to influence the medial lemniscus, thresholds are high and the same doses of chlorpromazine or morphine counteract escape completely even when stimulation is far above threshold.

12:30. Frequency changes and drug actions on self-regulation of brain stimulation intensity. LARRY STEIN, OAKLEY S. RAY, AND AMEDEO S. MARRAZZI, *VA Research Laboratories in Neuropsychiatry, Pittsburgh*.

An elaboration of the self-stimulation technique of Olds has been recently reported which enables animals to regulate and maintain at a preferred level the intensity of brain stimulating current given as reinforcement for lever pressing. Manipulation of the frequency (cps) of the electrical stimulus after intensity regulation had stabilized to a standard training frequency provided evidence that the technique measures a preferred energy of stimulation. Increases in frequency led to the selection of smaller intensities and decreases in frequency to higher intensities; these effects were largely reversible as indicated by a cross-over design. Preliminary data on central nervous system drugs also will be presented.

## Division 3. Discrimination Learning

12:00-12:50. Parlors N and O, Netherland Hilton

KENNETH M. MICHELS, *Purdue University*, Chairman12:00. Manipulation as a factor in primate pattern discrimination. JOHN R. SCHUCK, *Ohio State University*. (Sponsor, Donald R. Meyer)

Two hypotheses concerning visual stimulus sampling in the monkey were tested with color-pattern discriminations in a form board situation. The first was that sampling is largely restricted to cues manipulated by the monkey in responding. Animals were trained with stimuli consisting of cardboard bases three inches square upon which were centered smaller squares. Since no decrement resulted on problems requiring manipulation of irrelevant white center squares, manipulation was rejected as a factor in stimulus sampling. The results suggested a restricted region of maximum sampling determined by the monkey's hand position during the response. A subsequent study with new cards supported this interpretation.

12:10. Age, sex, and social rearing as variables in brightness discrimination. M. R. D'AMATO AND H. JAGODA, *New York University*.

72 thirsty rats were trained on a brightness discrimination problem to criterion in a  $2 \times 2 \times 3$  design. The variables investigated were: sex, social

rearing conditions (paired vs. isolated), and age (30, 60, 90 days). Analysis of variance applied to the criterion scores yielded a significant  $F$  only for the age variable, the means for the 30-, 60-, and 90-day-old groups being 99.3, 115.9, and 128.3, respectively. Although all subjects were trained to the bright stimulus as positive, analysis of the early training trials ruled out differential light avoidance as a significant variable.

12:20. Absolute and relational stimulus training in discrimination learning under conditions of punishment for incorrect responses. SHELDON J. LACHMAN AND DONALD H. TAYLOR, *Wayne State University and Lackland Air Force Base*.

The purpose of the investigation was to acquire data under conditions of electric shock punishment concerning the relative adequacy of theories of discrimination learning emphasizing habit-strength development as a consequence of differential reinforcement of stimuli (as proposed by Spence) and theories emphasizing stimulus interrelations and comparisons (as proposed by Kohler). All nine of the rats trained relationally (with both stimuli simultaneously present) attained the learning criterion; none of the six rats trained absolutely (with only one stimulus, positive or negative, present at a time) achieved the learning criterion. Relational training appears to be superior. Theoretical implications are discussed.

12:30. Reversal of cognitive and kinesthetic habits as a function of level of training. HERBERT KAMIN AND MORRIS ADERMAN, *Illinois Institute of Technology*.

The attempt of this study was to empirically determine the effect of different levels of training upon the reversal of kinesthetic (response) and cognitive (place) habits. Utilizing a simple T maze in a homogeneous environment, three groups of rats were given undertraining, medium-training, and overtraining respectively for the two different tendencies. The problem was then reversed for all groups to the same criterion. The overtraining groups showed the maximum degree of transfer during the reversal trials.

#### Division 5. Developments in Tests

12:00-12:50. Sheraton Room, Sheraton-Gibson

GEORGE G. BURGESS, *Haller, Raymond, and Brown, Inc.*, Chairman

12:00. A Formulating Hypotheses Test. NORMAN FREDERIKSEN, *Educational Testing Service*.

Formulating Hypotheses is an experimental data-interpretation test which requires the candidate to think of possible explanations of findings. Data are presented with a statement of a salient finding whose interpretation is not obvious. The task is to write hypotheses (possible explanations) and items of information needed to test the hypotheses. In Part 2 the candidate is given lists of hypotheses and items of information; his task is to mark those which are essentially the same as those he wrote. Thus objective scoring is possible, although the candidate is required to create original responses. Appropriate statistical information is presented.

12:10. An empirical evaluation of a test of role-playing ability. ZANWIL SPERBER, *Philadelphia Child Guidance Clinic*.

W. A. McClelland has developed a preliminary test of role-playing ability (RPA). This conveniently administered questionnaire is designed to assess a capacity considered important for successful performance in many human relations professions. The present study partially replicates McClelland's procedure for selecting items by correlating subjects' RPA test scores with their ratings on the criterion scales McClelland used (social intelligence, reaction sensitivity, etc.). RPA test scores were also correlated with a behavioral criterion, accuracy of subjects' predictions of the self-descriptive behavior of two people observed in an interview. The results indicate the test does not yield a valid measure.

12:20. Evidence of an underlying genetic dichotomy for certain psychological traits. RICHARD E. STAFFORD, *Princeton University*.

If a psychological trait has an underlying dichotomy, identical twins should either both have the trait or both lack it. The number of paired twin scores which span a given score was counted and plotted on a histogram giving a distribution which showed bimodality for three tests: Koh's Blocks, PMA Reasoning, and Pitch Discrimination. Prediction of the number of fraternal twins having similar and dissimilar scores was based on a gene frequency derived from the identical twins' distribution. A goodness-of-fit test indicated this prediction deviated only by sampling error. Therefore, it was assumed an inherited dichotomy would best explain the bimodal distribution.

12:30. The scalability of skills according to the Guttman and Thurstone criteria. STEPHEN D. BENSON, ARTHUR I. SIEGEL, AND MILTON RICHLIN, *Applied Psychological Services, Wayne, Pennsylvania*.

This study investigated the hypothesis that technical skills are scalable in the same sense that attitudes are scalable. The criteria employed for determining the scalability of the technical skills were those proposed by Thurstone and Guttman. The naval rating of Aviation Electronic Technician Radar (ATR) was chosen for study. 50 petty officers were used to rate 45 different technical skills using two different criteria. The data were then subjected to a Thurstone-type scale analysis. Both forms yielded items possessing S and Q values which permit scaling of the family of technical skills going into the ATR rate according to the Thurstone criteria. Items having the lowest S and Q values were then subjected to a Guttman-type analysis to determine the degree of reproducibility. The results of this study tend to support the hypothesis that skills are scalable as are attitudes.

#### Division 5. Quantitative Techniques

12:00-12:50. Parlors 4 and 5, Sheraton-Gibson

JOHN M. LEIMAN, *System Development Corporation*, Chairman

12:00. Abacs for determination of a correlation coefficient corrected for restriction of range. WILLIAM B. MICHAEL, ROBERT A. JONES, WESLEY GADDIS, AND HENRY F. KAISER, *University of Southern California, Claremont Graduate School, and University of Illinois*.

In the absence of practical graphic devices for determining what the size of an unrestricted correlation coefficient would be when an observed coefficient corresponding to a restriction of range is known, abacs were developed for determining what the magnitude of the correlation in the unrestricted population is anticipated to be in the instance of both explicit selection and incidental, or implicit, selection. In addition to describing the nature of the interrelationship among the variables and parametrics involved, the two abacs furnish not only a relatively high degree of numerical accuracy but also substantial savings in computational activities.

12:10. A simple method for manipulating the marginal frequencies of attitude items. RICHARD H. WILLIS, *Carnegie Institute of Technology*.

A method, devised by the author, for manipulating the marginal frequencies of attitude items was tested, and the effect of such manipulation on measures of scalability and homogeneity was investigated. Five 10-item scales were administered to 100 undergraduates. The data were then response balanced, i.e., for each item 50 subjects were scored "plus" and 50 were scored "minus." It was found that response balancing

lowered two measures of scalability, for all five scales, but Loevinger's coefficient of homogeneity (usually assumed to measure something closely akin to scalability) was increased for all five scales. An improved measure of scalability is proposed. The method for manipulating item marginals proved to be easy and satisfactory in practice.

12:20. On some empirical estimates of internal consistency of a time limit test. JOHN A. CREAGER, *Wright Air Development Center, Texas*.

Hoyt's method of estimating test reliability by analysis of variance of the item-score matrix may be adapted to a matrix generated under time limit conditions and having unequal numbers of observations for persons and for items. Matrices generated by administration of a spatial test under three different time limits are analyzed. For each time limit Hoyt coefficients are compared with other sets of estimates derived from the variance analyses, with retest coefficients, and with a previously reported correlation between separately timed halves of the total item pool. Coefficients from the analyses of variance lie  $\pm .09$  about the latter value.

12:30. The standard error of the contraharmonic mean. NATHAN JASPEN, *National League for Nursing, New York*.

It can be shown that, on the assumption of a normal parent distribution, the standard error of the contraharmonic mean is equal to  $(\sigma/\sqrt{N})\sqrt{(1+V^*)}$ , where V is equal to the coefficient of relative variation  $\sigma/\bar{X}$ . The contraharmonic mean,  $\sum X^2/\sum X$ , is a useful descriptive statistic. It furnishes characteristics of the average individual, as distinguished from the individual who is a member of the average grouping of individuals. The contraharmonic mean may be regarded as a measure of the impact of the group on the individual.

#### Division 1. Symposium: Mediating Processes in Verbal Behavior

1:00-2:50. Hall of Mirrors, Netherland Hilton

O. H. MOWRER, *University of Illinois*, Chairman

##### Participants:

W. A. BOUSFIELD, *University of Connecticut*. The significance of partial response identities for the problem of meaning.

C. N. COFER, *University of Maryland*. Mediation models and the problem of context.

W. A. RUSSELL, *University of Minnesota*. Associative models for transfer.

A. W. STAATS, *Arizona State University*. Meaning and word associations: Separate processes.

### Division 1. Symposium: Sensory Deprivation: Facts in Search of a Theory

1:00-2:50. Sheraton Room, Sheraton-Gibson

RICHARD HELD, *Brandeis University*, Chairman

#### Participants:

SANFORD FREEDMAN, *Massachusetts Mental Health Center*. Perceptual changes in sensory deprivation: Suggestions for a conative theory.

AUSTIN RIESEN, *University of Chicago*. Studying perceptual development using the technique of sensory deprivation.

HANS-LUKAS TEUBER, *New York University College of Medicine*. The search for neurologic interpretations: Agnosia, sensory deprivation, and sensory suppression.

RICHARD HELD, *Brandeis University*. Exposure-history as a factor in maintaining stability of perception and coordination.

Discussant: DONALD O. HEBB, *McGill University*.

### Division 3. Human Motivation II

1:00-1:50. Parlors L and M, Netherland Hilton

WENDELL E. JEFFREY, *University of California, Los Angeles*, Chairman

1:00. Interaction of shock and anxiety in verbal performance. W. DEAN CHILES, *Wright Air Development Center*.

A comparison was made of the learning of a shock group and a buzzer group, each containing high, low, and middle anxiety subgroups, on a verbal task which involved both strong and weak association items. The shock group responded to an electric shock on an irrelevant reaction time task; the nonshock group, to a buzzer. The middle and low anxiety shock groups performed better than the corresponding buzzer groups on both types of items, whereas the high anxiety buzzer group did better than its corresponding shock group.

1:15. Alpha frequency and alpha index during two drive states. DOROTHY RETHLINGSHAFFER AND HERBERT HART, *University of Florida*.

On the basis of the theory that drive states affect arousal level, it was assumed that alpha frequency and alpha index might reflect hunger and conditioned anxiety. Electroencephalograms were obtained during three sessions: relaxation, 24-hour hunger, and after conditioning with UCS as electric shock. A buzzer was sounded ten times during control, hunger, and extinction series. Analysis of variance of records (before and after the buzzer) revealed no significant

differences between control and drive sessions. There was no support for the hypothesis that alpha frequency or alpha index was influenced by hunger or by conditioned anxiety.

1:30. Effects of sleep deprivation and chlorpromazine on size constancy judgments. V. R. CARLSON, *National Institute of Mental Health*.

On the basis of previous research the hypothesis was formulated that overestimation in size constancy judgments is due to an interaction between the subject's assumption of the perspective attitude and his motivation toward objective accuracy in the experimental situation. For the present study it was predicted that, as motivational conditions, sleep deprivation would produce overestimation of size at a distance, but chlorpromazine would not. 14 normal subjects made size matches under placebo, chlorpromazine (200 mg.), and sleep deprivation conditions. Some overestimation of size occurred with placebo, but sleep deprivation produced a clearly greater amount of overestimation. The effect of chlorpromazine was not significantly different from that of the placebo.

### Division 3. Special Session: Experimental Analysis of Behavior

1:00-2:50. Ballroom, Sinton

THOM VERHAVE, *Eli Lilly and Company*, Chairman

(Participants to be announced.)

### Division 5. Report to APA: The National Talent Survey: The Identification, Development, and Utilization of Human Talent

1:00-2:50. Roof Garden, Sheraton-Gibson

JOHN C. FLANAGAN, *University of Pittsburgh*, Chairman

#### Participants:

JOHN C. FLANAGAN, *University of Pittsburgh*. Introduction.

JOHN T. DAILEY, *University of Pittsburgh*. Aims and objectives of the study.

WILLIAM A. GORHAM, *University of Pittsburgh*. The interest and personality tests.

MARION F. SHAYCOFT AND DOROTHY S. EDWARDS, *University of Pittsburgh*. The aptitude and achievement battery.

ISADORE GOLDBERG, *University of Pittsburgh*. The biographical information blank, and the measurement of schools and community characteristics.

### Division 19. Symposium: Research on Training Device Design

1:00-2:50. Parlors A, B, C, and D, Netherland Hilton

ALBERT E. HICKEY, JR., *Electric Boat*, Chairman

#### Participants:

GEORGE E. BRIGGS, *Ohio State University*. Performance evaluation in skill training research.

GORDON A. ECKSTRAND, *Aero Medical Laboratory*. Determination of requirements for training device design.

WILLIAM McCLELLAND, *Human Resources Research Office*. The use of part-task trainers and obsolete operational equipment as training devices.

EDWARD CALLAHAN, *United States Navy Training Device Center*. Pre-engineering consideration in training device design.

JOHN M. NEWTON, *Electric Boat*. Simulator evaluation.

### Divisions 1 and 5. Symposium: The Strategy of Multivariate Experiments in Psychological Research

3:00-5:50. Hall of Mirrors, Netherland Hilton

RAYMOND B. CATTELL, *University of Illinois*, Chairman

#### Participants:

RAYMOND B. CATTELL, *University of Illinois*. Assumptions and relative potencies of univariate and multivariate experimental design.

LEDYARD TUCKER, *Educational Testing Service*. Investigation of multivariate structure of individual differences in experimental psychology.

FRED DAMARIN, JR., *University of Illinois*. Multivariate studies involving the time dimension.

LYLE V. JONES, *University of North Carolina*. New multivariate procedures and some remaining unfilled needs.

J. P. GUILFORD, *University of Southern California*. Factors and psychological theory.

### Division 5. Symposium: New Developments in Test Scoring and Processing

3:00-5:50. Roof Garden, Sheraton-Gibson

BERTHA P. HARPER, *Personnel Research Branch, Department of the Army*, Chairman

#### Participants:

E. F. LINDQUIST, *University of Iowa*. What the Iowa electronic test processing equipment is doing.

ERNEST MADRIL, *Lackland Air Force Base*. The use of an electronic computer in test scoring and analysis.

JAMES F. KAMMAN, *University of Illinois*. Scoring psychological tests on accounting machines.

E. C. SCHROEDEL, *International Business Machines Corporation*. The IBM 9902 electronic test scoring punch.

CHARLES LANGMUIR, *Psychological Corporation*. A new small-scale test scoring machine.

ROBERT BARTNIK, *Educational Testing Service*. High speed test processing.

JOHN LEIMAN, *System Development Corporation*. A look into the future.

Discussants: HARRY H. HARMAN, *System Development Corporation*; AND BERTHA P. HARPER, *Personnel Research Branch, Department of the Army*.

### Division 19. Summarized Research Papers

3:00-4:50. Parlors A, B, C, and D, Netherland Hilton

CHARLES HILL, *Office of the Surgeon General, Department of the Army*, Chairman

3:00. Relationship of predictor and criterion ratings to personnel actions reflecting acceptability and promotability of Army enlisted men. AARON KATZ AND LOUIS P. WILLEMIN, *Personnel Research Branch, Department of the Army*.

Predictor ratings of estimated combat potential after five weeks in the Army, and criterion ratings after 16 weeks and again overseas after a year of service, were related to two measures of personnel actions: (a) acceptability, based upon clear Army record, court martial convictions, and unfavorable separations, and (b) promotability, based on enlisted grade held after 19 months in service. Correlation coefficients ranging generally from the high .30's to the middle .50's support continued use of ratings for both criterion and predictor purposes.

3:05. The use of follower stooges for field evaluation of leadership ability. PAUL D. HOOD, *United States Army Leadership Human Research Unit, California*.

Results of this experiment indicate that economies may be introduced through the use of follower stooges who simultaneously serve as evaluators. Global evaluations of "leader potential" provided by follower stooges correlated .89 with standardized behavior checklists of leader behavior. Reliabilities of the global ratings were .9. When only global evaluation is desired and only minimal attention need be directed to highly specific behavior, it seems feasible to dispense

with both the development of behavior checklists and trained observer-raters. This practice seems questionable for administrative assessment but may have utility in certain research applications.

- 3:10. Some characteristics distinguishing peer-preferred from nonpreferred and from rejected tent mates during a cold weather military exercise. MITCHELL M. BERKUN AND ROBERT E. KNOX, *Human Resources Research Office, California*.

After engaging in cold weather maneuvers, 32 preferred, 32 rejected, and 18 sociometrically indifferent Army subjects were selected by tent mates who substantiated nominations with observed incidents of effective or ineffective behavior. Subsequently, an intensive 2-day battery of tests was given to study characteristics distinguishing among these groups. The preferred subjects are reliably older and have more "automotive information." They are also better (statistically significant) on measures of eye-hand coordination, ability to handle complex information, masculinity, and ego strength. Other measures of intelligence gave differences consistently in favor of the preferred group being higher, but these differences failed of statistical significance. Age, ego strength, maturity, and perhaps intelligence distinguish preferred from nonpreferred peers in a hostile environment.

- 3:15. Peer ratings among navy carrier pilots as predictors of flight safety. NORMAN E. FREEBERG, JAMES F. PARKER, JR., AND RAY C. HACKMAN, *United States Naval Aviation Safety Center, Psychological Research Associates, Inc., and Psychological Service of Pittsburgh*.

90 Navy carrier pilots rated other pilots in their squadrons in terms of two dimensions: safeness and skill. 18 of the pilots were involved in a total of 25 accidents in the 3½ year period following the ratings. With some accounting for exposure differences, a significant correlation was obtained indicating that pilots who sustained one or more accidents tended to have lower safety ratings than those with none. No significant relationship between skill ratings and accidents was obtained. In addition, both safety and skill ratings were found to correlate significantly with whether or not a pilot remained on flying duty.

- 3:30. Effect of shorter acquaintance, or of adding cadre raters, on the validity of early buddy ratings of combat aptitude. HARRY KAPLAN AND LOUIS P. WILLEMIN, *Personnel Research Branch, Department of the Army*.

In previous research, buddy ratings in the fifth week of basic training were valid predictors of later

criterion ratings ( $r$ 's in .50's and .60's). In this study, additional analysis was conducted in order to answer two questions: How do cadre raters affect predictor rating validity? Are third week ratings as valid as fifth week ratings? Results indicated that: Combined buddy and cadre ratings are slightly more valid than buddy ratings alone (difference about .03). Third week buddy ratings are nearly as valid as fifth week buddy ratings (difference about .04), but this finding does not appear true for cadre ratings.

- 3:35. The effect of target size upon recognition. WILLIAM C. STEEDMAN, *Wright Air Development Center*. (Sponsor, Charles A. Baker)

The speed and accuracy of target recognition was determined for (a) various target sizes ranging from 4 to 100 minutes of visual angle and (b) four levels of distortion. Search time and errors of identification increased abruptly when the visual angle subtenses of the targets were less than ten minutes of arc. This critical break was independent of distortion.

- 3:40. A field study comparison of visual search methods in aerial observation. FRANCIS H. THOMAS, PAUL W. CARO, JR., AND JAMES M. HESSON, *Human Resources Research Office*.

An earlier study suggested that aerial visual search was made relatively ineffective by prolonged fixation upon sighted target objects. When the observer possessed the goal-set to "find a target," upon the realization of this goal, his search activity momentarily ceased. By reorienting the observer's goal-set "to visually cover all the search area," it was assumed more targets could be sighted. By emphasizing this latter goal and by providing the observer with techniques for its accomplishment, previously untrained aerial observers were able in in-flight observation to match their classroom proficiency in target recognition accuracy.

- 3:45. The validation of predictions concerning personnel and training requirements. MURRAY GLANZER AND ROBERT GLASER, *Walter Reed Army Institute of Research and American Institute for Research*.

Anticipation of future personnel and training requirements for new weapon systems has received increasing emphasis. In this study, the feasibility of predicting these requirements was investigated. An extensive study of a prototype missile system in 1952 yielded 450 statements concerning knowledge of operation, operational maintenance, trouble shooting. Five years later, ten expert judges rated the statements on current applicability. The results indicate that state-

ments based on a prototype system remain applicable, with minor modification, over the five-year period. The comparative stability of statements concerning different skill areas and different parts of the system is discussed.

- 4:00. The effects on flight proficiency measurement reliability of differences in check pilot standards. GEORGE D. GREER, JR., *United States Army Aviation Human Research Unit, Alabama.*

The problem of low or variable flight proficiency measurement reliability, whether the measure is the traditional subjective or a relatively objective system, is attributed to marked, identifiable differences in the standards applied by different check pilots. By means of a relatively simple classroom technique, pairs of check pilots can be selected whose standards are sufficiently uniform that the ride-ride reliability of the flight proficiency evaluation system can go from less than .20 up to .65 or higher. The method needs further development to serve the purpose of providing the basis for uniformity of standards training as well as selection.

- 4:05. Factors associated with servicemen's application and selection for a reserve officers' training program. WALDO B. LYON, *United States Naval Hospital, Bainbridge, Maryland.*

A group of enlisted sailors and marines who had preliminary acceptance to the NROTC program were compared to a large normal sample of sailors in their responses to a personality and background inventory. After the preliminary training, those qualifying for the program were compared with those who failed to qualify. The candidates differed significantly from the normals in education, intelligence, sports participation, and attitudes of parents. The successful selectees differed from the unsuccessful in length of service, attitudes of parents, attitudes toward the mother, self-ratings of intelligence, ratings of psychologists, and responses to the psychiatric inventory.

- 4:10. Development and evaluation of an improved radio repair course. GEORGE H. BROWN, *Human Resources Research Office.*

A new training course was developed for Army radio repairmen. The new course was characterized by: (a) the teaching of only those electronic fundamentals which could be explicitly related to the maintenance job, (b) more intensive instruction on fewer radio sets, (c) the use of a whole-to-part sequence instead of the traditional part-to-whole sequence in the instruction on specific sets. A group of 86 men trained in the new course was reliably superior

to a matched group of 86 conventionally trained men on proficiency tests of trouble shooting skill, test equipment skill, and on a paper and pencil test of maintenance information.

- 4:15. The organization of technical information for display interpretation training. SYLVIA R. MAYER, *Air Force Cambridge Research Center, Massachusetts.*

This research was addressed to the question of how optimally to organize technical information for display interpretation training. It was hypothesized that the information presentation order in training should follow a logically derived order of information processing for the interpretation task. Technical information concerning the experimental task was organized into three programs which three matched groups of Air Force subjects used as training guides during practice. Programs differed in similarity to the optimal order of information processing for that task. Results of a display interpretation test favored for training the organization most similar to the logically derived order of information processing.

### Division 3. Visual Perception

- 4:00-4:50. Parlors N and O, Netherland Hilton

ALFRED LIT, *Bendix Aviation Corporation, Chairman*

- 4:00. Transfer of error-correction in adaptation to prisms. JOSEPH BOSSOM AND RICHARD HELD, *Brandeis University.*

Errors of egocentric localization and eye-hand coordination are produced by placing prisms over the eyes of subjects. The errors of egocentric localization are diminished after 60 minutes of exposure in the prisms to an otherwise normal environment. Experimental results indicate that this adaptation will transfer to eye-hand coordination although no knowledge of specific eye-hand error is obtained by the subject during exposure or measurement. He need never view his hand. Adaptation in either eye-hand coordination or egocentric localization requires that during the exposure the sequence of retinal stimulation be contingent upon self-produced body movement.

- 4:10. Form identification as a function of resolution and size. DOMINIC F. MORRIS, *Wright Air Development Center.* (Sponsor, Charles A. Baker)

The time required to identify designated forms located in complex patterns was determined as a function of (a) the difference in resolution between the reference pattern and the problem pattern and

(b) the size of the pattern details. The results indicate that identification time increases both as a function of an increase in resolution difference and an increase in detail size.

4:20. A technique for producing displacement after-effects contingent upon eye and head position.

ALAN V. HEIN AND ROBERT SEKULER, *Brandeis University*.

Displacement aftereffects, a generalized form of the figural aftereffect, have been shown by Held to follow prolonged exposure to atypical visual environments. In his prism experiments Ivo Kohler demonstrated that a property of visual space may be made to vary systematically with a nonvisual condition (eye position). By making the exposure conditions for opposite displacement aftereffects contingent upon two different directions of glance, Kohler's essential result

was produced in minutes. In addition, head position was shown effective for producing this result.

4:30. Experimental reduction of autokinetic movement. JOSEPH R. ROYCE, *University of Redlands*.

This investigation was concerned with the effect of physical frames of reference on the autokinetic phenomenon. In Experiment I nine different configurations involving from 2 to 9 lights were presented. In Experiment II subjects were presented with an A-light surrounded by a  $\frac{1}{4}$ -inch-wide concentric circle with radii ranging from 1 to 13 inches. In the multiple A-light experiment there was reduced movement as more lights were exposed. The results of Experiment II clearly show a reduction of movement regardless of the radius of the circle. The percentage of reduction varies from 30% to 90% and, overall, increases as the radius increases.

## BUSINESS MEETINGS, PRESIDENTIAL ADDRESSES, AND SOCIAL FUNCTIONS

### THURSDAY AFTERNOON, SEPTEMBER 3

#### Division 12 Membership Committee. Meeting

1:00-1:50. Parlor A, Netherland Hilton

WALTER L. WILKINS, *St. Louis University*, Chairman

#### APA Committee on Mental Health Programs. Meeting

2:00-4:50. Parlor 2, Sinton

ARTHUR J. BINDMAN, *Massachusetts Department of Mental Health*, Chairman

#### Division 16. Business Meeting and Presidential Address

2:00-4:50. Sheraton Room, Sheraton-Gibson

FREDERICK B. DAVIS, *Hunter College*, New Techniques for Interpreting Test Scores in Diagnosis and Counseling.

#### Division 7 Executive Committee. Meeting

4:00-5:50. Parlor 1, Sinton

#### Division 13. Business Meeting and Presidential Address

4:00-5:50. Parlors N and O, Netherland Hilton

HAROLD A. EDGERTON, *Richardson, Bellows, Henry and Company*.

#### APA Board of Professional Affairs. Meeting

5:00-7:50. Parlor F, Netherland Hilton

JOHN G. DARLEY, *University of Minnesota*, Chairman

#### Division 16. Social Hour

5:00-5:50. APA Lounge, Netherland Hilton

### THURSDAY EVENING, SEPTEMBER 3

#### Division 17 Executive Committee. Meeting

7:00. Parlor 6, Sheraton-Gibson

#### Division 12 Outgoing Executive Committee. Meeting

8:00-10:50. Parlor A, Netherland Hilton

ANNE ROE, *VA Hospital, Montrose, New York*, Chairman

### FRIDAY MORNING, SEPTEMBER 4

#### APA Council of Representatives. First Session

9:00-4:50. Sheraton Room, Sheraton-Gibson

### FRIDAY AFTERNOON, SEPTEMBER 4

#### Division 17 Committee on Special Interests. Meeting

1:00-2:50. Parlor 7, Sheraton-Gibson

ALBERT S. THOMPSON, *Teachers College, Columbia University*, Chairman

Committee members and invited guests will participate in the meeting.

#### Division 22. Business Meeting

1:00-2:50. Parlor 5, Sinton

FREDERICK A. WHITEHOUSE, *American Heart Association, New York*, Chairman

#### Division 7. Business Meeting and Presidential Address

4:00-5:50. Rookwood Room, Sinton

ALFRED L. BALDWIN, *Cornell University*. Pride and Shame in Children.

#### Division 18. Business Meeting

4:00-5:50. Parlor 5, Sinton

CARL L. ANDERSON, *United States Public Health Service, Maryland*, Chairman

#### Division 20. Business Meeting

4:00-5:50. Parlors 8 and 9, Sheraton-Gibson

#### Division 15. Business Meeting and Presidential Address

5:00-6:50. Ballroom, Sinton

WARREN G. FINDLEY, *Atlanta Board of Education*. On the Fine Art of Losing One's Identity.

#### Division 17. Social Hour for Members and Interested Nonmembers

5:00-5:50. APA Lounge, Netherland Hilton

**FRIDAY EVENING, SEPTEMBER 4****Division 7. Social Hour**

6:00-6:50. APA Lounge, Netherland Hilton

**Division 20. Social Hour**

6:00-6:50. Parlor 7, Sheraton-Gibson

**Division 22. Social Hour, Dinner, and Presidential Address**

6:00. Sky-Line Ballroom, Terrace Hilton

MARY SWITZER. Tribute to Donald Dabelstein.

FREDERICK A. WHITEHOUSE. *American Heart Association, New York.* Psychological Aspects of Heart Disease.**Division 20. Dinner and Presidential Address**

7:00-8:50. Parlors 8 and 9, Sheraton-Gibson

ROSS A. MCFARLAND. *Harvard School of Public Health.* Experimental Evidence for a New Theory of the Aging Process.**Division 8. Business Meeting and Presidential Address**

8:00-9:50. Parlors L, M, N, and O, Netherland Hilton

JEROME S. BRUNER. *Harvard University.* On Coping and Defending.**Division 12. Business Meeting and Presidential Address**

8:00-10:50. Pavillon Caprice, Netherland Hilton

JAMES G. MILLER. *University of Michigan.* Information, Input, Overload.**SATURDAY MORNING, SEPTEMBER 5****APA Committee on Relations between Psychology and Religion. Meeting**

9:00-11:50. Parlor 2, Sinton

WILLIAM C. BIER. *Fordham University,* Chairman**SATURDAY AFTERNOON, SEPTEMBER 5****Psi Chi. Council Meeting**

1:00-2:50. Parlor 1, Sinton

**APA Committee on Mental Health Programs. Meeting**

2:00-4:50. Parlor 2, Sinton

ARTHUR J. BINDMAN. *Massachusetts Department of Mental Health,* Chairman**Psi Chi. Business Meeting and Coffee Hour**

3:00-4:50. Parlor 1, Sinton

**APA Committee on International Relations in Psychology. Coffee Hour with Foreign Psychologists**

4:00-4:50. Crystal Room, Sinton

Open to interested participants.

**Division 12 Incoming Executive Committee. Meeting**

4:00-5:50. Parlor D, Netherland Hilton

JAMES G. MILLER. *University of Michigan,* Chairman**Division 17. Presidential Address and Business Meeting**

4:00-5:50. Parlors N and O, Netherland Hilton

EDWARD JOSEPH SHOEN, JR., *Columbia University.* Love, Loneliness, and Logic.**Division 9. Social Hour**

5:00-5:50. APA Lounge, Netherland Hilton

**Division 12. Social Hour**

5:00-6:50. APA Lounge, Netherland Hilton

**SATURDAY EVENING, SEPTEMBER 5****Division 15. Social Hour**

6:00-6:50. APA Lounge, Netherland Hilton

**APA Dance**

9:00-12:50. Roof Garden, Sheraton-Gibson

**MONDAY MORNING, SEPTEMBER 7****APA Committee on Health and Accident Insurance. Meeting**

9:00-11:50. Parlor 2, Sinton

BENJAMIN SHIMBERG. *Educational Testing Service,* Chairman

**Division 3 Executive Committee. Meeting**

9:00-10:50. Parlor D, Netherland Hilton

**APA and Division Incoming and Outgoing Convention Program Committee Chairmen. Meeting**

11:00-12:50. Parlor 6, Sheraton-Gibson

**MONDAY AFTERNOON, SEPTEMBER 7****Regional Association Presidents and Presidents-elect. Luncheon**

12:00-1:50. Parlor D, Netherland Hilton

**Division 2. Business Meeting and Presidential Address**

1:00-2:50. Hall of Mirrors, Netherland Hilton

FRED MCKINNEY, *University of Missouri*. Teaching Psychology and Values.**APA Committee on Communication with High School Teachers. Meeting**

2:00-3:50. Parlor 2, Sinton

R. H. KNAPP, *Wesleyan University*, Chairman**Division 10. Presidential Address and Business Meeting**

2:00-3:50. Parlors 8 and 9, Sheraton-Gibson

JAMES J. GIBSON, *Cornell University*. Perspective, Painting, and Perception.**Division 5. Presidential Address and Business Meeting**

3:00-5:50. Roof Garden, Sheraton-Gibson

CLYDE H. COOMBS, *University of Michigan*. A Theory of Data.**Division 14. Business Meeting, Presidential Address, and Social Hour**

3:00-6:50. Rookwood Room, Sinton

JOSEPH TIFFIN, *Purdue University*. Recent Trends in Industrial Psychology.**Division 10. Social Hour**

4:00-4:50. APA Lounge, Netherland Hilton

**Division 21. Business Meeting and Presidential Address**

4:00-5:50. Parlors L and M, Netherland Hilton

FRANKLIN V. TAYLOR, *United States Naval Research Laboratory*.**Division 3. Business Meeting and Presidential Address**

5:00-6:50. Pavillon Caprice, Netherland Hilton

WILLIAM K. ESTES, *Indiana University*. Learning Theory and the New "Mental Chemistry."**Division 9. Presidential Address**

5:00-5:50. Ballroom, Sinton

M. BREWSTER SMITH, *University of California, Berkeley*. Rationality and Social Process.**MONDAY EVENING, SEPTEMBER 7****Division 5 and Psychometric Society. Social Hour**

6:00-6:50. APA Lounge, Netherland Hilton

**Division 19. Business Meeting**

6:00-7:50. Parlor 6, Sheraton-Gibson

**Division 3. Social Hour**

7:00-7:50. APA Lounge, Netherland Hilton

**TUESDAY MORNING, SEPTEMBER 8****APA Council of Representatives. Second Session**

9:00-4:50. Sheraton Room, Sheraton-Gibson

**APA Education and Training Board. Meeting for the Chairmen of Departments Offering Graduate Training Programs in Psychology**

9:00-10:50. Parlors 8 and 9, Sheraton-Gibson

**TUESDAY AFTERNOON, SEPTEMBER 8****APA Education and Training Board. Meeting**

12:00-2:50. Parlor D, Netherland Hilton

**Division 1. Presidential Address and Business Meeting**

4:00-5:50. Ballroom, Sinton

HARRY HELSON, *University of Texas*. Psychophysics, Perception, and Interpersonal Relations: Analogy or Commonality?

**Division 2. Coffee Hour**

4:00-4:50. Parlors 8 and 9, Sheraton-Gibson

**Division 19. Social Hour for Members and Interested Nonmembers**

5:00-5:50. APA Lounge, Netherland Hilton

**TUESDAY EVENING, SEPTEMBER 8****Division 19. Dinner and Presidential Address**

6:00-7:50. Parlors L and M, Netherland Hilton

GEORGE K. BENNETT, *Psychological Corporation*. Logical Analysis of Military Problems.

**Division 3. Social Hour**

9:00. APA Lounge, Netherland Hilton

**WEDNESDAY AFTERNOON, SEPTEMBER 9****Division 19. Luncheon for Psychologists Interested in Space Vehicles**

12:00. Parlors E and F, Netherland Hilton

## MEETINGS OF OTHER GROUPS

### THURSDAY, AUGUST 27

#### Division 12. The 1959 Postdoctoral Training Institute

August 27-September 2. 9:00-4:50. University of Cincinnati

KARL F. HEISER, *Glendale, Ohio*, Chairman

#### Instructors and Courses:

LEE GUREL. Hospital operations assessment.

ABRAHAM ZEICHNER. Training of supervisors in projective techniques.

RICHARD TRUMBULL. Psychological research in human stress reactions.

SAMUEL KIRK. New understandings in "mental retardation."

J. F. T. BUGENTAL. Professional preparation for private practice of psychology.

Tuition fee is \$50.00; apply to institute Chairman: Karl F. Heiser; 10 East Sharon Avenue; Glendale, Ohio

### MONDAY, AUGUST 31

#### Division 16. Fourth Professional Institute for School Psychologists

August 31-September 2. 9:00-4:50. Our Lady of Cincinnati College

ROSA HAGIN, Chairman

#### Three Problems in School Psychology:

Interpretation of aptitude and achievement test scores.

Research and the school psychologist.

Working with groups of pupils, parents, and teachers.

Section Leaders: FREDERICK B. DAVIS, CHESTER W. HARRIS, AND PHILIP ZLATCHIN.

Tuition fee is \$25.00.

### TUESDAY, SEPTEMBER 1

#### National Institute of Mental Health. Meeting with Chief Psychologists in State Mental Health Programs

September 1-2. 9:00-4:50. Sheraton Room, Sheraton-Gibson

ARTHUR J. BINDMAN AND MELVIN P. REID,  
Co-Chairmen

#### Veterans Administration, Department of Medicine and Surgery. Somatopsychology Research Meeting

September 1-2. 9:00-4:30. VA Hospital, Cincinnati

All participants in the Cooperative Research Program.

### WEDNESDAY, SEPTEMBER 2

#### Divisions 12 and 13. Workshop: Opportunities and Problems for Psychologists in Administration

9:00-4:30. Student Union Building, University of Cincinnati

EDWARD M. GLASER, Chairman

Participants: W. J. HUMBER, ROBERT L. KAHN, HAROLD J. LEAVITT, AND CARROLL L. SHARTLE.

Fee of \$15.00 payable by each person in attendance.

#### Veterans Administration. Open Session

1:30-3:50. VA Hospital Auditorium, Cincinnati

VA psychologists and all other interested colleagues are invited.

#### Veterans Administration. Social Hour

5:00-6:50. (Place to be announced)

### FRIDAY, SEPTEMBER 4

#### American Catholic Psychological Association. Meetings

##### Luncheon

12:30. Blue Room, Union Building, Xavier University

##### Presidential Address

1:30. Blue Room, Union Building, Xavier University

SALVATORE DI MICHAEL. Effect of Disability upon Religious Attitudes.

##### Symposium: Marriage Counseling

2:30. Armory, Xavier University  
RAYMOND J. MCCALL, Chairman

Participants: ALEXANDER A. SCHNEIDERS, WILLIAM REEVY, ERNEST DOLEYS, AND JOHN STAFFORD.

**Business Meeting**

4:30. Armory, Xavier University

**Veterans Administration, Vocational Rehabilitation and Education. Workshop: A Case of Counseling**

9:00-4:30. Manager's Conference Room, VA Regional Office, Cincinnati

IRENE G. COOPERMAN, Chairman

Consultant: LEONA E. TYLER.

**SATURDAY, SEPTEMBER 5**

**International Council of Women Psychologists. Board Meeting**

9:00-4:50. Parlor 8, Sheraton-Gibson

**Veterans Administration. Meeting for Vocational Rehabilitation and Education Personnel and Counselors at Veterans Administration Guidance Centers**

9:00-10:50. Parlor 1, Sinton

JOSEPH SAMLER, Chairman

**Society for Projective Techniques. Business Meeting and Presidential Address**

3:00-4:50. Parlors L and M, Netherland Hilton

WILLIAM E. HENRY. Personality Development in Adulthood and Old Age.

**Society for Projective Techniques. Social Hour**

5:00-6:50. APA Lounge, Netherland Hilton

**MONDAY, SEPTEMBER 7**

**International Council of Women Psychologists. Meetings**

**Luncheon Meeting**

12:00-1:50. Parlors L and M, Netherland Hilton

**Business Meeting**

4:00-5:50. Parlors 8 and 9, Sheraton-Gibson

**Incoming Board Meeting**

6:00-6:50. Parlors 8 and 9, Sheraton-Gibson

**TUESDAY, SEPTEMBER 8**

**Psychometric Society Council of Directors. Meeting**

2:00-2:50. Parlor 2, Sinton

FREDERIC M. LORD, Chairman

**Psychometric Society. Presidential Address and Business Meeting**

3:00-4:50. Rookwood Room, Sinton

FREDERIC M. LORD. An Approach to Mental Test Theory.

**Psychometric Corporation. Business Meeting**

5:00-5:50. Parlor 2, Sinton

FREDERIC M. LORD, Chairman

## CONVENTION ANNOUNCEMENTS

HOWARD B. LYMAN, *Convention Manager*

**Time and Place:** Thursday, September 3, through Wednesday, September 9, 1959, in Cincinnati, Ohio. Meetings will be held in the Netherland Hilton, Sheraton-Gibson, and Sinton Hotels. These three hotels are in the heart of downtown Cincinnati, located close to each other, within one block of Fountain Square. Most APA Day activities will be held in the Taft Auditorium which is three blocks from Fountain Square. The APA Reception for Psychologists' Wives and Guests will be held in the Taft Museum which is about four blocks from Fountain Square. *Cincinnati is on Eastern Standard Time.*

**Housing:** The Cincinnati Convention and Visitors Bureau has guaranteed the APA a number of close-in downtown hotel rooms. Cincinnati, though, does not have the great reserve of overflow rooms in outlying hotels that some cities have. Last-minute registrants may have to be housed at some distance from the convention hotels.

At APA request, the three headquarters convention hotels have provided flat rates. The usual spread in rates will prevail at other hotels. The Hotel Reservation Form appears at the end of these notes. Reservations are made in the order received. Those with unusual housing needs should write directly to the Housing Chairman: Murray E. Tieger; 2607 Burnet Avenue; Cincinnati 19, Ohio.

**Registration:** Members and guests are urged to register in advance to minimize delay upon arrival at the meetings. Those who register in advance merely need to indicate their convention address prior to receiving their badge and *Convention Guide*. Member and Nonmember Registration Forms appear at the end of these announcements. The Registration Desk will be located on the Third Floor Foyer of the Netherland Hilton and will be open on Wednesday, September 2 (the day preceding the convention) from 2:00 P.M. to 8:00 P.M. The Registration Desk will be open from 8:00 A.M. to 5:00 P.M. each day of the convention with the following exceptions: on APA Day, September 6, the desk will not open until 10:00 A.M.; on Wednesday, September 9, the desk will close at 12:00 noon. There will be no registration fee for APA members. The fee for nonmembers is \$2.50.

**Mail and Directory:** A directory of members and guests registered at the convention will be maintained on the Third Floor Foyer of the Netherland Hilton. On the Fourth Floor Foyer, there will be a desk for the Mail and Directory Chairman, a bulletin board for messages, and a mailbox for leaving messages for friends at the convention. Members are urged to

check the mailbox from time to time throughout the convention; every year, hundreds of uncollected messages have to be thrown away.

**Tickets for Luncheons and Other Special Events:** Tickets for scheduled special events (including the Friday night Boat Ride) may be obtained from the Special Events Desk in the registration area on the Third Floor Foyer of the Netherland Hilton. Hours will be the same as for the Registration Desk.

**Luncheon and Dinner Requests:** Arrangements can still be made for food or beverage functions for special groups (APA divisions, alumni parties, special interest groups, etc.). The convention hotels offer excellent facilities for such functions at rates much lower than comparable hotels in most other cities. Requests should be sent to the Special Events Chairman (Ida Truscott; 2854 Ridgewood Avenue; Cincinnati 13, Ohio) as soon as possible. Functions scheduled before August 1 can be announced in the *Convention Guide*.

**Child Care Service:** As announced in the April issue of the *American Psychologist*, child care service will be available from 9:00 A.M. to 5:00 P.M. each day of the convention for children between the ages of two and ten inclusive. It is important that arrangements be made in advance with the Child Care Chairman. The importance of this point cannot be overemphasized, because much detailed planning is involved. Each child care room will be supervised by a fully qualified group day care teacher who will have at least one assistant. Not more than 18 children will be included in any one room at one time. Groups will be divided by age. Rooms will be equipped with play equipment, nursery-type cots, etc. The charge will be \$.50 per hour for each child. Snacks will be provided without additional expense, but a \$.50 to \$.75 charge will be made for any lunches that need to be furnished. Members who are interested in obtaining this service should write **immediately** to Betty Montgomery (Room 1000, Reakirt Building; 128 E. Sixth; Cincinnati 2). Day care for infants or evening baby sitters may be arranged through the management of the hotel in which the member is staying. It is suggested that requests for such service be addressed to the member's hotel well in advance of the meeting.

**Women's Activities:** Special arrangements have been made this year for a Ladies Lounge in Parlor E on the Ballroom Floor of the Sheraton-Gibson. This parlor will be open to women only from 9:00 A.M. to 5:00 P.M. each day (except APA Day) of the conven-

tion. Coffee will be served with the compliments of the Women's Activities Committee. In addition, one part of the Mezzanine Floor at the Netherland Hilton will be used as a meeting point for women to get together for informal activities (shopping, sight-seeing, card playing, etc.). An **APA Reception for Psychologists' Wives and Guests** will be held at the Taft Museum from 3:00 P.M. to 5:00 P.M. on APA Day. Although this reception has been planned primarily for wives of psychologists, the Women's Activities Committee extends an open invitation to all who are interested in attending.

**APA Dance:** The APA Dance this year will be held on the evening of Saturday, September 5, in the Roof Garden of the Sheraton-Gibson from 9:00 P.M. to 1:00 A.M. (Note that this is a change from recent years when the APA Dance has been held on Sunday evening following the Presidential Address.) Two orchestras will provide music for continuous dancing to *danceable* music. Provision will be made for the purchase of beverages. There is no admission charge for this event.

**Information Desks:** Information Desks will be maintained in the Third Floor Foyer of the Netherland Hilton and the Main Lobby of the Sheraton-Gibson. Personnel at these desks will provide such convention information as room location and the time and place of scheduled events. In addition, they will make available information about desirable restaurants, local points of interest, recreational facilities, etc.

**Exhibits:** The exhibits of professional and technical interest to all APA members will be located in the North and South Exhibit Halls of the Netherland Hilton.

**Convention Lounge:** There will be an APA Lounge with bar facilities in the Hall of Mirrors of the Netherland Hilton every day except APA Day and Wednesday (the last day of the meeting). The Lounge will be open from 4:00 P.M. to 12:00 midnight. Social hours for most divisions and special interest groups will be scheduled in the APA Lounge. There will be no APA Lounge at either of the other convention hotels; however, special APA buffet dinners will be served on Thursday, Sunday, and Monday evenings in the Florentine Room of the Sheraton-Gibson. Details will be available at the Special Events Desk and at the Information Desks.

**Placement:** All placement activities will be located on the Ballroom Floor of the Sheraton-Gibson. Except for APA Day, the Placement Office will be open every day from 9:00 A.M. to 5:00 P.M. **Applicants** seeking employment should preregister with the APA Placement Office; requests for forms should be sent to

the APA Placement Office (1333 Sixteenth Street, N.W.; Washington 6, D. C.). **Employers** having position vacancies may use the Position Description Form which appears at the end of these announcements. Preregistration of position descriptions and applicant forms will facilitate the placement service at the convention for everyone.

**Convention Treasurer:** The Convention Treasurer urges divisional officers to check their financial commitments with the hotels very closely to avoid confusion with those commitments assumed by the APA Central Office or by the Convention Arrangements Committees.

**Convention Personnel:** A convention as large as this one requires the efforts of many people far in advance of and during the convention period. Each person assumes the responsibility for one aspect of the convention, but they all have worked together striving to provide you with a pleasant and smoothly operating convention. You may wish to contact one or more of these people before or during the convention. They can be reached at the appropriate convention headquarters room (see next section). The Chairmen of the convention committees are:

Convention Manager: HOWARD B. LYMAN, *University of Cincinnati*

Convention Program Chairman: THOMAS G. ANDREWS, *University of Maryland*

Convention Treasurer: LOUIS BROWN, *VA Hospital, Cincinnati, Ohio*

Physical Facilities Chairmen: ALFRED B. KRISTOFFERSON AND RODERICK J. SENTER, *University of Cincinnati*

Exhibits Chairmen: WILLIAM G. MOLLENKOPF AND DON J. COSGROVE, *Procter and Gamble Company, Cincinnati*

APA Day Chairman: ANTHONY J. HYBL, *General Electric, Cincinnati*

Convention Guide Chairman: THEODORE H. WOHL, *VA Hospital, Cincinnati, Ohio*

Directory and Mail Chairman: GOLDINE C. GIESER, *Cincinnati General Hospital, Ohio*

Housing Chairman: MURRAY E. TIEGER, *2607 Burnet Avenue, Cincinnati 19, Ohio*

Information Desk Chairman: STELLA WHITESIDE, *Cincinnati Board of Education*

Membership Survey Chairman: ELIZABETH R. MILLER, *University of Cincinnati*

Placement Liaison Chairman: CLARKE W. CRANNELL, *Miami University, Oxford, Ohio*

Public Information Chairman: ROBERT B. MILLS, *Cincinnati Municipal Court*

Registration Chairman: FREDERICK W. TRAROLD, JR., *Crosley Division, Avco Corporation*

Special Events Chairman: IDA P. TRUSCOTT, 2854  
Ridgewood Avenue, Cincinnati 13, Ohio

Volunteer Workers Chairman: IGNATIUS A. HAMEL,  
Xavier University, Cincinnati

Women's Activities Chairman: RUTH BISHOP  
HEISER, 10 East Sharon Avenue, Glendale, Ohio

Hospitality: DORIS TWITCHELL ALLEN, 30 West  
Fountain Avenue, Glendale, Ohio

Child Care Chairman: BETTY MONTGOMERY, Room  
1000, Reakirt Building, 128 East Sixth Street,  
Cincinnati 2, Ohio

#### Location of Headquarters Rooms:

APA Board of Directors: Room 427, Sheraton-Gibson

APA Central Office: Room 414, Sheraton-Gibson

APA Convention Office: Julep Room, Netherland  
Hilton

Child Care Rooms: Sample Rooms, Sheraton-Gibson

Convention Bar and Lounge: Hall of Mirrors, Netherland  
Hilton

Conversation-Contact Office: Parlor 1, Netherland  
Hilton

Exhibits: North and South Exhibit Halls, Netherland  
Hilton

Film Room: Parlors A, B, and C, Netherland Hilton

Mail and Roster Desk: Fourth Floor Foyer, Netherland  
Hilton

Roster: Third Floor Foyer, Netherland Hilton

Information Desks: Third Floor Foyer, Netherland  
Hilton; Main Lobby, Sheraton-Gibson

Placement Interview Parlors: Parlors, Ballroom  
Floor, Sheraton-Gibson

Placement Office: Ballroom, Sheraton-Gibson

Press Rooms: Parlors H and K, Netherland Hilton

Physical Facilities: Parlor J, Netherland Hilton

Registration: Third Floor Foyer, Netherland Hilton

Signs and Posters: Parlor J, Netherland Hilton

United States Public Health Service: Parlors F and  
G, Ballroom Floor, Sheraton-Gibson

Veterans Administration: Parlor H, Ballroom Floor,  
Sheraton-Gibson

Volunteer Workers: Parlor I, Netherland Hilton

Women's Activities Lounge: Parlor E, Sheraton-Gibson

Women's Meeting Area: Mezzanine, Netherland  
Hilton

#### Location of Function Rooms:

##### NETHERLAND HILTON

Third Floor: Hall of Mirrors, Julep Room

Fourth Floor: Pavillon Caprice, North and South  
Exhibit Halls, Parlors A-O

##### SHERATON-GIBSON

Lower Level: Sheraton Room

Florentine Mezzanine: Parlors 4-9

Ballroom Floor: Ballroom, Parlors E-I, Parlors  
N-Q

Roof Garden: Roof Garden, Marine Room

##### SINTON

Main Lobby Level: Ballroom, Rookwood Room,  
Crystal Room, and Parlors 1-5

**The 1960 Annual Convention:** The next convention will be in Chicago, Illinois. George Speer of the Illinois Institute of Technology will be the Convention Manager. Speer may be contacted through the Convention Office in the Julep Room of the Netherland Hilton.

### INFORMAL ANNOUNCEMENTS

#### Conversation-Contact Hours

A new convention feature this year will be a number of Conversation-Contact Hours. On each of four days, eight leaders (each a well-known psychologist in his area of specialization) will be present in scheduled rooms for meeting and chatting with other psychologists. These sessions are designed especially for graduate students and other young psychologists, but are open to all. Doris Twitchell Allen and her committee (Ruth Hartley, James R. Patrick, and Ralph M. Stoghill) have arranged the following schedule:

#### FRIDAY, SEPTEMBER 4

5:00-5:50. Parlors E and F, Netherland Hilton  
LOIS BARCLAY MURPHY, *Menninger Foundation*  
ZYGMUNT PIOTROWSKI, *Jefferson Medical College*

5:00-5:50. Parlor G, Netherland Hilton  
LILLIAN PORTENIER, *University of Wyoming*  
THEODORE NEWCOMB, *University of Michigan*

6:00-6:50. Parlors E and F, Netherland Hilton  
GORDON ALLPORT, *Harvard University*  
CARL ROGERS, *University of Wisconsin*

6:00-6:50. Parlor G, Netherland Hilton  
MARY COVER JONES, *University of California*  
E. LOWELL KELLY, *University of Michigan*

#### SATURDAY, SEPTEMBER 5

5:00-5:50. Parlors E and F, Netherland Hilton  
ESTHER MCGINNIS, *Ohio State University*  
DORWIN CARTWRIGHT, *University of Michigan*

5:00-5:50. Parlor G, Netherland Hilton  
NANCY BAYLEY, *National Institute of Mental Health*  
ROBERT LEEPER, *University of Oregon*

6:00-6:50. Parlors E and F, Netherland Hilton  
 MUZAHER SHERIF, *University of Oklahoma*  
 ARTHUR G. BILLS, *University of Cincinnati*

6:00-6:50. Parlor G, Netherland Hilton  
 HELGA WOLFF, *University of Vienna*  
 ÅKE BJERSTEDT, *University of Lund*

#### MONDAY, SEPTEMBER 7

5:00-5:50. Parlors E and F, Netherland Hilton  
 HORACE ENGLISH, *Ohio State University*  
 JOHN P. SCOTT, *Roscoe B. Jackson Memorial Laboratory*

5:00-5:50. Parlor G, Netherland Hilton  
 ROBERT WALDROP, *Veterans Administration*  
 JOHN DASHIELL, *Wake Forest College*

6:00-6:50. Parlors E and F, Netherland Hilton  
 LEON FESTINGER, *Stanford University*  
 THOMAS G. ANDREWS, *University of Maryland*

6:00-6:50. Parlor G, Netherland Hilton  
 JAMES J. GIBSON, *Cornell University*  
 RUTH HARTLEY, *City College of New York*

#### TUESDAY, SEPTEMBER 8

5:00-5:50. Parlors E and F, Netherland Hilton  
 HELEN JENNINGS, *Brooklyn College*  
 BOYD McCANDLESS, *Iowa Child Welfare Research Station*

5:00-5:50. Parlors N and O, Netherland Hilton  
 DONALD LINDSLEY, *University of California, Los Angeles*

EDGAR A. DOLL, *Bellingham Public School, Washington*

6:00-6:50. Parlors E and F, Netherland Hilton  
 MOLLY HARROWER, *New York City*  
 PERCIVAL SYMONDS, *Columbia University*

6:00-6:50. Parlors N and O, Netherland Hilton  
 E. R. HILGARD, *Stanford University*  
 THEODORE F. LENTZ, *Attitude Research Laboratory, St. Louis*

#### Introducers of the Members to the Leaders:

September 4 and 5.

MARJORIE CREELMAN, *Cleveland*  
 LEAH GOLD FEIN, *Stanford, Connecticut*, Head  
 MALCOLM SHAW, *Cincinnati*  
 RICHARD W. WALLEN, *Cleveland*

September 7 and 8.

ARTHUR J. BACHRACH, *University of Virginia*, Head  
 MARJORIE CREELMAN, *Cleveland*

ROWLAND H. SHEPARD, *VA Hospital, Perry Point, Maryland*

RICHARD WALLEN, *Cleveland*

#### Recorders:

ALAN CLARKE, *University of North Carolina*

MARGARET KING, *University of North Carolina*

RICHARD A. KING, *University of North Carolina*, Head

PHILLIP NORMAN, *University of North Carolina*

#### Open Houses

An open house and conducted tour is being arranged of the psychological facilities available at the Department of Psychiatry in the **Cincinnati General Hospital** and the **University of Cincinnati College of Medicine**. The tour will include the Central Psychiatric Clinic, the Psychiatric Ward, and the Child Guidance Home. The date and times of this open house will be announced in the *Convention Guide*. Further information may be obtained from VIRGINIA T. GRAHAM (Department of Psychiatry, Cincinnati General Hospital; Cincinnati 29, Ohio).

An open house and inspection of psychological facilities is being arranged for the **Veterans Administration Hospital**, 3200 Vine Street, Cincinnati. Date and time will be announced in the *Convention Guide*. For further information, contact LEONARD OSEAS (Chief, Psychology Services, Veterans Administration Hospital; Cincinnati 20, Ohio).

An open house and tour of facilities is being arranged at the **Goodwill Industries**. For further information, contact JOHN WILSON (Department of Psychology, University of Cincinnati; Cincinnati 21, Ohio).

An open house is planned throughout the convention at **Longview State Hospital**, with particular emphasis on the Laboratory of Experimental Psychopathology. For further information, contact GEORGE KISKER (Longview State Hospital; P. O. Box 36; Cincinnati 16, Ohio).

The *Division of Psychological Services* of the **Cincinnati Board of Education** will hold Open House on Wednesday afternoon, September 2, 1959. Special recognition of the contribution of the late Mabel R. Fernald, former Director of the Division of Psychological Services, will be a part of the program. For further information, contact STELLA WHITESIDE (Cincinnati Board of Education, Psychological Services; 608 East McMillan Street; Cincinnati 6, Ohio).

*Dinners, Luncheons, Social Hours, and Special Events*

Alumni of the **University of Kentucky** will meet for dinner at 6:00 P.M., Saturday, September 5. Alumni who are interested in attending should contact **JOAN LEE**, Executive Secretary (Department of Psychology, University of Kentucky; Lexington, Kentucky).

A Social Hour for the Departments of Psychology at the **University of Cincinnati and Xavier University** will be held on Monday, September 7, from 5:00 to 7:00 P.M. in the APA Lounge. Alumni and friends of the faculties of these two institutions are cordially invited to attend.

**Sir Charles Bell Society** dinner. To be announced.

**Psychologists employed full-time in industry.** Business Meeting and Social Hour, Tuesday, September 8, in the Rookwood Room, Sinton. 5:00-8:00 P.M.

For further information, contact **W. B. WALKER** (Room 1109, General Electric; 570 Lexington Avenue; New York, New York).

A Social Hour for the alumni of **Johns Hopkins University** is scheduled for 4:00-4:50 in the APA Lounge on September 8.

Packaged liquor may be purchased in Ohio only at **state liquor stores**. These stores are open 11:00 A.M. to 7:00 P.M. daily except Sunday and holidays. Addresses of state stores near the convention hotels will be listed in the *Convention Guide*.

The Special Events Committee has arranged for a special **APA Boat Ride** on the Ohio River on Friday, September 4, from 8:00 P.M. to midnight. Bus transportation from and to the convention hotels will be provided. Tickets may be purchased at the Special Events Desk. Early purchase of tickets is advised because of the limited capacity of the boat.

## HOTEL RESERVATION FORM

Rates are listed below for the Cincinnati hotels. Reservations must be made through APA Housing. Neither rate nor reservation can be guaranteed by APA Housing if reservations are made after August 3, 1959. Reservations should be made as early as possible and must be made through:

**APA Housing**  
714 Union Central Building  
Cincinnati 2, Ohio

HOTELS	SINGLES	DOUBLES	TWINS	SUITES
<i>Headquarters:</i>				
Netherland Hilton	\$ 9.00	\$12.50	\$14.00	\$28.00 and up
Sheraton-Gibson	\$ 8.50	\$12.00	\$13.50	\$32.50-\$75.00
Sinton	\$ 8.00	\$11.00	\$13.00	\$20.00-\$28.50
<i>Other Downtown Hotels:</i>				
Broadway	\$ 7.00	\$10.00-\$12.00	\$10.00-\$12.00	\$ —
Cincinnatian	\$ 5.00-\$ 6.00	\$ 6.00-\$ 7.00	\$ 7.00-\$ 8.00	\$ —
Fountain Square	\$ 4.50-\$ 6.50	\$ 6.50-\$ 9.50	\$ 8.50-\$ 9.50	\$ —
Metropole	\$ 6.00-\$ 8.50	\$ 9.00-\$12.00	\$ 9.50-\$15.00	\$ —
Terrace Hilton	\$12.25-\$18.25	\$ —	\$16.50-\$22.50	\$30.50 and up
<i>Outlying Hotels:</i>				
Alms	\$ 7.00-\$ 8.00	\$ —	\$ 8.00-\$10.00	\$14.00 and up
Kemper Lane	\$ 7.00-\$ 8.00	\$ 9.00-\$10.00	\$10.00-\$12.00	\$ —
Mariemont	\$ 5.00-\$ 6.00	\$ 7.00-\$ 8.00	\$ —	\$ —
Vernon Manor	\$ 4.00	\$ 5.00-\$ 6.00	\$ 6.00-\$ 9.00	\$12.00 and up

Dormitory Rooms (4 or more to room); per person: \$3.50 at Netherland Hilton  
\$3.50 at Sheraton-Gibson  
\$3.50 at Sinton

See map on back of this page for location of hotels.

Make all changes and cancellations through APA Housing.

Please reserve the following:

..... Single(s) for ..... persons at rate \$.....  
 ..... Double(s) for ..... persons at rate \$.....  
 ..... Twin(s) for ..... persons at rate \$.....  
 ..... Suite(s) for ..... persons at rate \$.....

*Hotel:*

First Choice.....  
 Second Choice.....  
 Third Choice.....

Arrival Date..... at ..... A.M.  
P.M. Departure Date..... at ..... A.M.  
P.M.

**Note:** Reservations will not be held beyond 6:00 P.M. except by request.

Room occupants: (Be sure to give the names of all occupants and bracket those sharing a room.)

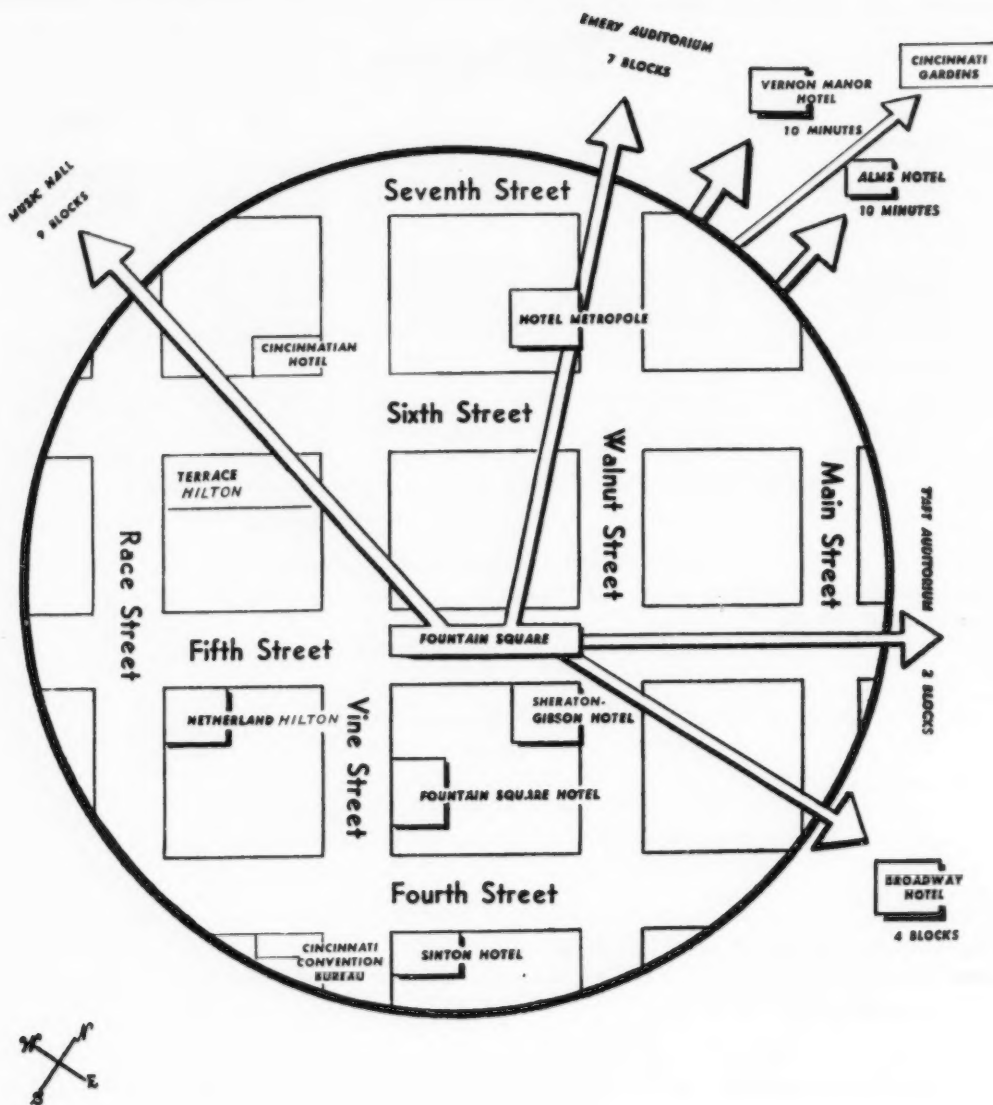
Name (Please print)	Sex	Address	City	State
.....	.....	.....	.....	.....
.....	.....	.....	.....	.....
.....	.....	.....	.....	.....
.....	.....	.....	.....	.....

Your reservation will be confirmed directly by your hotel.

Mail Confirmation to: .....

Address..... City..... State.....

(Copies of this form may be obtained from the APA Housing or from the APA Central Office.)



## APA MEMBER ADVANCED REGISTRATION FORM

### SIXTY-SEVENTH ANNUAL CONVENTION OF THE AMERICAN PSYCHOLOGICAL ASSOCIATION

*Cincinnati, Ohio, September 3-9, 1959*

Please type or print:

Name: Dr.  
Mr.  
Miss  
Mrs. \_\_\_\_\_  
Last First Middle Initial

Professional Affiliation: \_\_\_\_\_  
(to appear on badge:  
maximum of 20 letters  
per line.) \_\_\_\_\_  
\_\_\_\_\_  
(City) (State)

The following information is requested for the Convention Directory:

1. Expected date of arrival at convention.....

Expected date of departure from convention.....

2. APA membership status:

Fellow..... Member, Student Journal Group.....

Member..... Foreign Affiliate.....

Associate.....

3. Circle division membership(s) 1 2 3 5 7 8 9 10 12 13  
14 15 16 17 18 19 20 21 22

When you arrive at the convention, pick up your badge and convention materials at the **Advanced Registration Desk** and give your Cincinnati address to the receptionist. There will be no additional forms to fill out. There is no registration fee for APA Fellows, Members, Associates, Foreign Affiliates, and Members of the Student Journal Group.

Please send this form as early as possible to:

**APA Housing  
714 Union Central Building  
Cincinnati 2, Ohio**

(Copies of this form may be obtained from the APA Housing or from the APA Central Office.)  
*APA Member Advanced Registration Forms received after August 31 will not be processed for preregistration.*

# BOOKS, "SEPARATES," PAMPHLETS

(Revised list)

*Available at*

THE AMERICAN PSYCHOLOGICAL ASSOCIATION, INC.

## Books

*Research in Psychotherapy.* 1959. Pp. 293. \$3.00

*School Psychologists at Mid-Century.* 1955 (reprinted 1958). Pp. 230. \$2.75

*Psychology and Mental Health.* 1956. Pp. 154. \$1.75

*America's Psychologists.* 1957. Pp. 247. \$1.00

## "Separates"

*Ethical Standards of Psychologists.* \$1.00

*Psychoanalysis as Seen by Analyzed Psychologists.* \$2.00

*Publication Manual.* \$1.00

*A Glossary of Some Terms Used in the Objective Science of Behavior.* \$1.00

*Technical Recommendations for Psychological Tests and Diagnostic Techniques.* \$1.00

## Pamphlets (single copy free; bulk orders 10¢ each)

*Neuropsychiatry* (Quarterly Report of the Department of Neurology and Psychiatry of the University of Virginia), Vol. IV, No. 3; Fall, 1957

*Public Information Guide*

*The Psychologist in Today's Legal World*

*Psychologists in Action*

*Career Opportunities in Psychology*

For orders of \$2.00 or less, prepayment is requested

Order from:

AMERICAN PSYCHOLOGICAL ASSOCIATION

1333 Sixteenth Street, N.W.

Washington 6, D. C.

## NONMEMBER ADVANCED REGISTRATION FORM

### SIXTY-SEVENTH ANNUAL CONVENTION OF THE AMERICAN PSYCHOLOGICAL ASSOCIATION

*Cincinnati, Ohio, September 3-9, 1959*

Nonmembers of APA are requested to complete this form for advanced registration.

Please type or print:

Name: 

Dr. Mr. Miss Mrs.	_____	_____	_____
	Last	First	Middle Initial

Professional Affiliation: \_\_\_\_\_  
(to appear on badge:  
maximum of 20 letters  
per line.) \_\_\_\_\_  
\_\_\_\_\_  
(City) (State)

The following information is requested for the Convention Directory:

1. Expected date of arrival at convention \_\_\_\_\_
2. Expected date of departure from convention \_\_\_\_\_

When you arrive at the convention, pick up your badge and convention materials at the **Advanced Registration Desk** and give your Cincinnati address to the receptionist. There will be no additional forms to fill out.

A fee of \$2.50 must accompany this form. Make checks and money orders payable to: 1959 APA Convention. Please send this form, together with the fee, as early as possible to:

**APA Nonmember Registration**  
**Box 21**  
**Cincinnati 21, Ohio**

(Copies of this form may be obtained from Nonmember Registration or from the APA Central Office)  
*Nonmember Advanced Registration Forms received after August 31 will not be processed for preregistration.*

# PSYCHOLOGY AND REHABILITATION

BEATRICE A. WRIGHT, Ph.D.

*Editor*

Based on the proceedings of an Institute on the roles of psychology and psychologists in rehabilitation, sponsored by the American Psychological Association and supported by a grant from the Office of Vocational Rehabilitation, Department of Health, Education and Welfare.

The volume examines the principles and assumptions underlying the modern philosophy of rehabilitation, paying special attention to the roles and functions of psychologists as members of an interdisciplinary team. Problems of training are explored in detail and in the context of the changing nature of the field. Areas of needed research are highlighted.

Price \$1.50

Order from:

**American Psychological Association, Inc.**

Dept. PAR

1333 Sixteenth Street, N.W.

Washington 6, D. C.

## POSITION DESCRIPTION FORM

(Typewrite or print in pencil) APA CONVENTION PLACEMENT OFFICE **Position Number** \_\_\_\_\_

I. Name and Address of Employing Organization: \_\_\_\_\_

II. Position Title (include location if different from I.): \_\_\_\_\_

III. How many openings does this form cover: \_\_\_\_\_

IV. Applicant Requirements:

A. Degree:	1. PhD (EdD) _____	2. PhD preferred, will consider Master's _____	
	3. Master's _____	4. Other _____	
B. Experience: _____			
C. Other: _____			
Sex: Male _____ Female _____ Either _____ Age Range: _____			

V. Position requirements:

A. Duties:	
B. Starting Salary (depending on qualifications):	Minimum: _____ Maximum: _____
C. Position Begins:	Immediately _____ or, give date _____

VI. A. If you wish space to interview applicants, fill in the name of the interviewer and check your tentative interviewing schedule: \_\_\_\_\_

Sept. 3		Sept. 4		Sept. 5		Sept. 7		Sept. 8		Sept. 9	
A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.

B. If you have no plans for interviewing, please indicate the person to whom inquiries are to be sent: \_\_\_\_\_

VII. Check one category for listing your position:

Academic \_\_\_\_\_ Clinical and Counseling \_\_\_\_\_ Industrial and Research \_\_\_\_\_

(Return completed form to: Convention Placement; 1333 Sixteenth Street, N.W.; Washington 6, D. C.  
Copies of this form are available from this address.)

# **GRADUATE EDUCATION IN PSYCHOLOGY**

Report of the Conference on Graduate Education in Psychology, sponsored by the Education and Training Board of the American Psychological Association and supported by a grant from the National Institute of Mental Health, U. S. Public Health Service; held at Miami Beach, Florida, November 29 to December 7, 1958

Prepared by the Editorial Committee:

Anne Roe, *Chairman*,

and

John W. Gustad, Bruce V. Moore,

Sherman Ross, and Marie Skodak

Price \$1.50

**THE AMERICAN PSYCHOLOGICAL ASSOCIATION**

**Dept. Grad**

**1333 Sixteenth Street, N.W.**

**Washington 6, D. C.**

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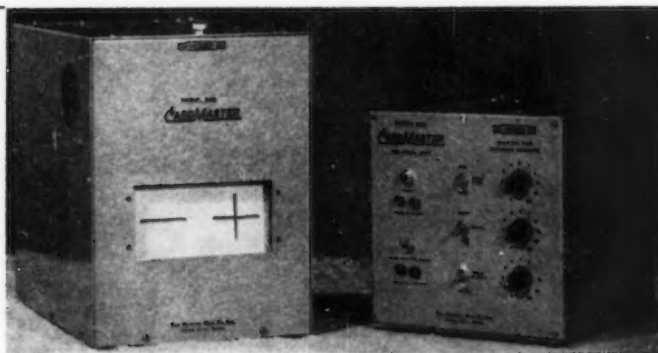
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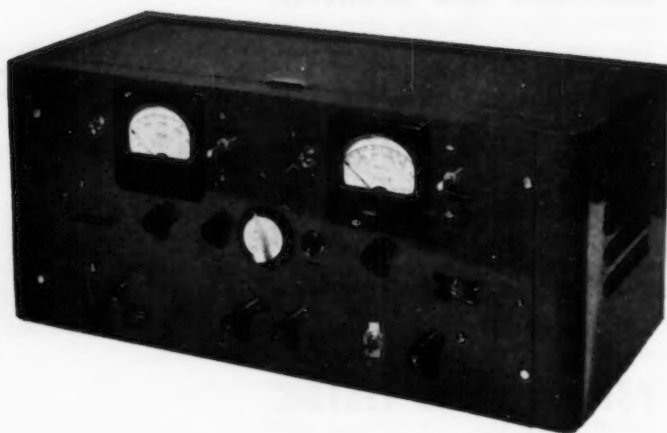
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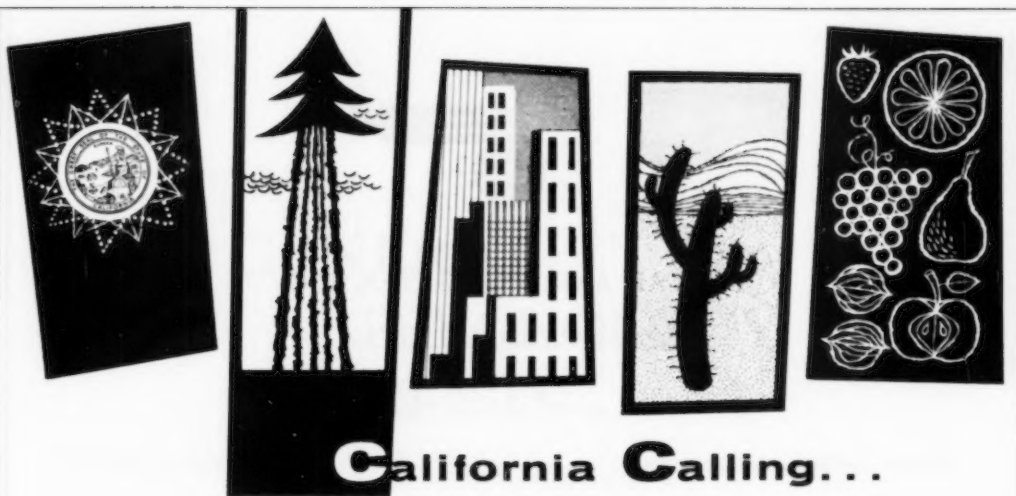
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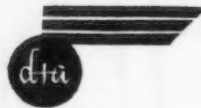
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